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DIESEL RAILWAY TRACTION

A Supplement illustrating and describing developments in Diesel Railway Traction is presented with every copy of this week's issue

DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders, 1940, No. 629

With the object of conserving paper by avoiding the return of unsold copies, readers are advised in the interests of all concerned to place a regular order for THE RAILWAY GAZETTE either with their newsagent or direct with the Publisher

Locomotive Builders Export Group

AMONG the industries which have formed export groups under the aegis of the Export Council is that of the locomotive manufacturers. The *Board of Trade Journal* of May 2 shows that Mr. F. S. Walley and Mr. J. W. Vaughan, President and Secretary respectively of the Locomotive Manufacturers' Association, are to be Chairman and Secretary of the export group which is to be responsible for the co-ordination of the effort of this industry. In accordance with the wish of the Export Council, it is also to form additional or sectional groups to cover the manufacturers of diesel and diesel-electric locomotives, railcars, and locomotive parts and accessories. It is appropriate that this important part of the national industrial effort should have been entrusted to the old-established Locomotive Manufacturers' Association for, since its formation in 1875, that body has been largely interested in the export market. For many years past it has been an export group in all but official designation, and in large measure has put into active practice the precepts which are now so widely urged on industry by the Government. In doing so Mr. Walley and Mr. Vaughan have acquired a store of specialised knowledge that cannot fail to be of great value in the prosecution of the national effort to stimulate sales overseas and thus buttress the country's foreign exchange position.

* * * *

Functions of an Export Group

The bringing together of the various other sections of cognate industries formerly independent of the Locomotive Manufacturers' Association will make for cohesion and economy of effort and will result in a powerful group. The primary advantage of the formation of an export group is that it ensures that members will obtain steel supplies for essential requirements. That, however, is to take a narrow view of the function of these bodies. More positively, the purpose of these groups may be interpreted as to take vigorous action to obtain sales overseas and to extend by all means possible our grip on foreign markets, so vital during war to assure our ability to import equivalently. The Locomotive Manufacturers' Association has had some valuable experience and has met with considerable success in projects of this kind under difficulties similar to those now ruling. The important Turkish contract which is in process of fulfilment, secured in the face of keen German competition, is one instance. It is satisfactory too that, notwithstanding the heavy volume of work the industry is undertaking for the Government, it is still able to keep up a flow of export output. Since some 99 per cent. of the work of the industry in recent years has been for overseas customers it will not suffer the disabilities inherent in the changeover which many trades have to surmount.

* * * *

The Centenary of Brighton Station

To celebrate the centenary of the opening of Brighton station, a collection of old prints, photographs, and other relics, is being exhibited in the Royal Pavilion, Brighton. This exhibition, to which the admission is free, was opened on May 8 and will be available to the public until Wednesday next, May 15, thus covering the period of the Whitsun holidays. The Southern Railway, which is sponsoring this "hundred years of railway history in pictures and models," carries in normal times some 8,500 passengers (including season-ticket holders) to Brighton every day, and the passengers arriving there during the three-day August Bank Holiday period of 1938 totalled 156,300. Since January 1, 1933, the main line between London and Brighton has been worked by multiple-unit electric trains, and the peacetime daily service is 99 in each direction. The present Brighton Central station of the Southern

Railway still incorporates the original building brought into use on May 11, 1840, when the Brighton—Shoreham section of the London & Brighton Railway Company was opened. This building was also the headquarters of that company. The final section of the main line between London and Brighton was opened on September 21, 1841.

* * * *

Volk's Electric Railway

A recent notice in *The London Gazette* concerning the voluntary winding up of Magnus Volk Limited marks the last stage in the long family connection of Volk with the Brighton Electric Railway, which passed to the Brighton Corporation Transport Department on April 1. Magnus Volk was the originator of this famous line, the first electric railway in Great Britain and the only one in the world to have survived for nearly 57 years. When it was built, the electric railway, opened on August 3, 1883, extended a quarter of a mile only, namely the section from a point opposite the entrance of the old Aquarium to the Chain Pier. During the first six months some 30,000 persons were carried. On April 4, 1884, the line was extended to Paston Place, and on February 21, 1901, to Black Rock. The direction was in the hands of Magnus Volk from its beginning until his death at the age of 85 on May 20, 1937, since which time the Managing Director of the company has been Mr. M. H. Volk. During the 57 years of its life, nearly 30,000,000 passengers have been carried on the railway. In a recent press statement, Mr. M. H. Volk said that "the only sum received for so-called compensation was just under £2,000, payable at the expiration of the old lease, as a contribution by the Corporation towards the cost of special alterations carried out at its request some years ago. Nothing has or will be paid for the goodwill of the business, now taken over as a going concern, instead of being scrapped as was the old intention; or with the continued use of the family name."

* * * *

British Assets in Brazil

Details have reached London of a Decree (No. 2,073, of March 8) by the Brazilian Government which virtually expropriates important railway assets in that country. The São Paulo Rio Grande Railway, which was built by French interests at a cost of about £13,000,000, and is a subsidiary of the Brazil Railway Company, much of the capital of which is held in this country, is to be taken over by the Government for £500,000 in milreis policies. This figure is to include other valuable properties, certain of which, including a cold storage business, a paper company, and a lumber undertaking, are stated by those in close touch with the affairs of the railway to be nothing to do with the São Paulo Rio Grande Railway but to be assets of the Brazil Railway Company. Similarly the Government is taking over the port of Para. In this case it has adopted the argument that a former president overpaid the port for its services, and that the company should repay the State some £4,000,000. The Government has valued the port at about £3,600,000 and states it will take it over for as long as the £4,000,000 remains outstanding. Superficially at least, on the basis of the information available in London, it would appear that strong action is called for to safeguard the rights of the railways concerned.

* * * *

Canadian Pacific Railway Company

Sir Edward Beatty, in his address to stockholders of the Canadian Pacific Railway Company at the annual general meeting held in Montreal, did not enlarge very specifically on the reasons which previously had been given for withholding the dividend on the preference stock. That decision has been the subject of a good deal of adverse comment

in this country. Sir Edward emphasised the necessity for caution in finance in view of the difficulty of making a reasonable forecast of developments, and pointed to the probable need for substantial liquid resources in the future. On the other hand, he hinted that continuance of the improved earnings of the current year might warrant distribution to preference stockholders. On the operating side he was able to point to twenty-five years of progress and, as will be seen from the report on page 689, he gave some pertinent illustrations of the improvements which have been achieved. He remains firm in his conviction that further rail economies without a reduction in capacity could be obtained by the unified control of the two great Canadian systems, and, that being so, his disappointment is understandable that it has been found impossible to make progress in this direction for the duration of the war.

* * * *

Londonderry & Lough Swilly Railway

The Londonderry & Lough Swilly Railway, as we noted in THE RAILWAY GAZETTE of March 8, when dealing with the report and accounts for 1939, now derives its profits from its road transport business. The railway between Buncrana and Carndonagh (18 miles) has been closed since 1935 and it is understood that the branch line from Letterkenny to Burtonport (50 miles) is likely to be closed shortly, and the traffic worked by road. Public notice—necessary in Eire—of the date of the closing has not yet been issued. These serious amputations reduce the Lough Swilly Railway system to its original dimensions of 40 years ago. The parent company's line runs from Londonderry to Buncrana with a branch to Farland Point (14 miles) on the upper reaches of Lough Swilly; the Letterkenny section from Farland to Letterkenny (16½ miles). Thus the two chief towns of Co. Donegal (Letterkenny and Buncrana)—incidentally the only towns of note on the whole Lough Swilly system—are still served by rail and linked with Londonderry. Small buses are used to cover subsidiary routes connecting with the main services, and act as feeder to the larger buses employed on the more important routes.

* * * *

Reorganisation of Indian Railway Inspectorate

The Government of India is about to take the first step in carrying out the provisions of the Act of 1935, by creating a Railway Inspectorate that will be under the Department of Communications and independent of the Railway Authority. As shown on page 687, it is claimed that this change will relieve inspectors of any possible embarrassment in criticising the department under which they are employed and therefore enhance the value of their reports. On the other hand, it seems to us that there is at least one serious disadvantage in the proposed change. Of necessity, the number of inspectors will continue to be small—at most about eight—and the prospects of any engineer joining this small body will be very limited. It seems, therefore, that only men without ambition are likely to elect to become inspectors. At present engineers are glad to be posted as inspectors, either because it gives them a wider range of experience, helping to fit them for the highest executive railway appointments later on, or because they are within a few years of superannuation and the independence appeals to them. But when a man elects to join the inspectorate for the remainder of his service the first of these incentives disappears, and it is questionable whether under the new conditions of service, the man nearing the age of retirement is in all cases the best suited to the task. Frequent changes in personnel also appear unavoidable, unless specially attractive terms are offered to rather younger men to induce them to forego more ambitious prospects.

Another Record Year for U.S.A. Safety

The year 1939 broke all records for the general safety of the railroads, proving even better than the previous record year, 1938. Fewer persons lost their lives than in any year since 1888, and only 13 passengers were killed in train accidents, compared with 52 in the previous year, though it is only fair to mention that 40 of the 52 killed in 1938 lost their lives in the derailment of a train due to a cloudburst. In train service accidents 14 passengers were fatally injured last year, as against 17 in 1938; these accidents consist mainly of casualties among passengers getting into or out of trains. Fewer employees were killed and injured per hours worked than ever before, fatalities proving 2·6 and injuries 2 per cent. lower than in the year before. In 1938, 2,294 trespassers on railway property were killed, or four fewer than in 1938, and level crossing fatalities were lower than in any year since 1915. Trespasser and level crossing fatalities together accounted for 86 per cent. of the total deaths connected with railroads last year.

* * * *

The Value of Superheating

Much of the success derived from the use of superheated steam in locomotives is attributable to the fact that superheating attacks the heat cycle at a point where the losses are greatest, namely, in the cylinders, and effects the elimination of cylinder condensation during admission and expansion and re-evaporation at exhaust. The tests carried out by the Pennsylvania Railroad some time back ranked as perhaps the most complete of any. The engine tested belonged to the "E6s" class and a thorough analysis of the results showed that the application of the superheater in this locomotive increased its economy from a minimum of 23 per cent. to a maximum of 46 per cent., the economy increasing with the increased power required of the locomotive. It was found that 30 per cent. higher capacity was derived from the E6s locomotive when using superheated steam than from the same size and type of engine using saturated steam. This result was obtained with the comparatively low superheat of 200° to 225° F. Today temperatures double or even treble these are reached. Even the lower figures referred to showed an average increase in economy of 1·15 to 2 per cent. for each 10° F. increase in superheat, and experience has shown that this rate of increase in economy holds good up to the limits of present day average practice.

* * * *

Good Guesswork

Although he is now dedicated to national service, the railwayman still finds time for those little acts of personal consideration which used to make such pleasant reading in staff journals before the war. We know of an instance in which a servant of the Southern Railway displayed powers of second sight, possibly developed in the black-out. A member of the Forces had been transferred to another training camp, and being in possession of various personal articles under the weight of which he would have sunk helpless to the floor had he attempted to carry them in the official manner upon his back, he packed them in a suitcase and despatched them to the nearest railway station, plainly labelling the case "to be called for." No indication was given of his martial calling. In spite of this, he found on arrival that his case had preceded him, and had been delivered to the very steps of the camp guard-room. Somebody had made a bold assumption regarding his identity, possibly guided by the fact that a stranger coming to a situation so remote must be either a recluse renouncing human society, or a soldier, sailor, or airman, with the odds in present circumstances strongly in favour of the three latter.

Railway Dividend Limitation Effects

RAILWAY stockholders are well accustomed to adversity. It is no new experience for them to have their expectations raised only to find their hopes dashed while yet the promise is unfulfilled. It was, perhaps, because that section of the Stock Exchange and of the investing public which deals in home railway securities has become resigned to finding that prospects of a reasonable return on their investments are seldom realised that the yields, based on payments for 1939, have remained relatively high. That, of course, is only another way of saying that there has been comparatively little rise in the prices of the stocks, despite the fuss that was made in some political quarters over such improvements as occurred in quotations about the time of the announcement of the financial agreement between the companies and the Government. At no time have the yields on home railway stocks shrunk to a figure which would suggest that any attempt was being made to discount the benefits of that agreement. In the event, that has proved a good thing, for it has at least avoided a very sharp recession in values on the latest setback to home railway proprietors—the limitation of dividends to 4 per cent. announced by the Chancellor of the Exchequer in his Budget speech.

Although it may be argued that it is no more than equitable that the railways should share in the restrictions placed on other undertakings, there can be no doubt that other considerations also arise in the case of the railway companies. The limitation of dividends cuts directly across the Government's own agreement with the companies, covering the financial terms which are to operate for the duration of control. That agreement, the details of which are still the subject of discussion between the parties, was announced as to its main heads on February 7, and it is safe to assume that during the lengthy negotiations which preceded that event, no hint of any impending limitation of dividends was dropped to the railway spokesmen, although almost equally certainly the Treasury, which in effect was the other contracting party, must have known that the matter was a live issue. It is not, of course, suggested for one moment that a Budget secret should have been disclosed, even in the privacy of discussions such as these; but it is legitimate to comment that, seen in retrospect and linked with dividend limitation, that agreement takes on a very changed appearance. Never generous to the owners of the railways, and embodying principles which do not commend it to the railway boards, the agreement is shown now as sheared of such future possibilities of reward as tended at first blush to make it at least palatable. It is not contested that the financial agreement is a document of first class importance, based on principles and incorporating lines of policy which, whatever their merits or demerits, may prove of great moment to the railways in the future. Its practical application, however, has been radically changed by the latest Treasury edict.

There can be no gainsaying the fact that, from the viewpoint of the railway investor, the immediate point of interest in the agreement, modified or not, is the return he will derive from his investment under its operation. On that basis the change which has been wrought by the limitation of dividends is clear in two cases. It will first apply to Great Western ordinary stockholders who, under the agreement, would have been entitled to 4·6 per cent. when the pool of revenues reached £44,600,000 and who would have received 4·9 per cent. and 6·6 per cent. when the pool totalled £46,600,000 and £54,100,000 respectively. They would have received their maximum of 8·1 per cent. when pool revenues reached £60,300,000, but that was looking a long way ahead. Now they can

hope for 4 per cent. and no more, no matter what the total may be in the pool. Similarly, the L.M.S.R. ordinary stockholder can no longer look forward to the 4·3 per cent. at £54,100,000 and the 5·8 per cent. at £60,300,000 pool total. The cases of the L.N.E.R. and the Southern are not so clear cut. These companies have both preferred and deferred ordinary stocks. Since the former in each case is entitled to a non-cumulative distribution limited to 5 per cent. before any return can be made on the deferred, the preferred appear to be in the position of junior preference stocks for the purposes of the Budget, and the deferred stocks become the ultimate equity stocks to which the limitation of dividends should apply. It must not, however, be overlooked that in the determination of the Trustee status of a railway prior charge stock, both the preferred and deferred are taken as a whole as the ordinary capital. In the case of the L.N.E.R. the position will not assume practical importance for some time, but for the Southern it is of more immediate importance. The position of the last partner in the pool—the London Passenger Transport Board—is even more obscure. Technically the board has no ordinary stock, although the "C" stock is in fact an equity security. The question also arises as to whether any restriction is to be placed on the use to which the companies are to put any revenues they may receive from the pool in excess of the amount they are permitted to distribute in dividends. One course would be to place these sums, if any, to special dividend equalisation reserves, so that ultimately they might benefit the ordinary stockholders from whom they are first to be withheld. No doubt these points, and several others which arise under the new limitation of the rights of the railway boards, are receiving the attention of the management of the companies.

* * * *

Egyptian State Railways in 1938-39

THE Egyptian State Railway system comprises trunk lines from Alexandria, Port Said, Ismailia, and Suez, to Cairo, and from Cairo to Shellal, together with a network of branch and connecting lines, chiefly in the Nile Delta, i.e., north of Cairo. These lines total 3,875 km. single track on the 4 ft. 8½ in. gauge. The administration also works the Upper Egypt Auxiliary Railway of 374 km. on the 4 ft. 8½ in. gauge, and the Western Oasis line of 195 km. on the 2 ft. 6 in. gauge from Mowasla junction on the Cairo-Shellal section to Kharga. Steam services for passengers and goods on certain sections of the Upper Nile are also worked by the Egyptian State Railways. At Shellal the river boats of the Sudan Railways provide communication to the south. In the year ended April 30, 1939, the gross earnings of the Egyptian State Railways showed a satisfactory result as compared with the previous four years and were the highest obtained for the last seven years. Compared with 1937-38 they were up by £E.42,223 or 0·78 per cent. There was an increase in working expenses of £E.267,016 or 6·10 per cent. which was chiefly due to an increase of £E.139,000 for renewals and special works, £E.43,000 for coal, £E.34,000 for repairs of locomotives and £E.65,000 for indemnities and pensions. In net receipts the reduction was £E.224,793.

Coaching receipts declined £E.59,252 or 2·82 per cent., and the number of passengers by 1,507,647 or 4·10 per cent. First class passenger receipts fell off because of no international congresses being held in Egypt and third class on account of intense bus competition. Public goods tonnage, however, increased by 223,363 tons or 3·47 per cent., and goods receipts by £E.83,970 or 2·6 per cent. The increase in tonnage was chiefly due to building material, cereals, rice, petroleum oil, timber, sugar-canies, and salt. The Government has now created a Transport

Advisory Committee to advise on projects, laws, and regulations relating to means of transport other than the State Railways, and to co-ordination of road and river transport with the railways. The principal operating statistics compare as follow:—

	1937-38	1938-39
Passengers	36,769,609	35,262,353
Public goods, tons	6,436,718	6,660,081
Train-kilometres	23,584,165	24,332,469
Ton-kilometres	1,833,911,471	1,913,420,657
Operating ratio, per cent. ...	80·83	85·10
	£E.	£E.
Coaching earnings	2,157,955	2,098,703
Goods earnings	3,149,295	3,233,265
Total earnings	5,416,934	5,459,157
Working expenses	4,378,745	4,645,761
Net receipts	1,038,189	813,396

The total earnings given above include contributions from the river service of £E.4,972 in 1937-38 and £E.4,407 in 1938-39. Apart from reducing rates of certain products to encourage export of local produce, various reductions were introduced during the year under review in order to retain or attract traffic to the railways, which resulted in an increase of £E.36,276 in receipts. Popular appreciation of the express collection and delivery service and of the container service continues to increase.

Locomotive Availability

OUR American contemporary *Railway Mechanical Engineer* suggests that the steam locomotive, in respect of its availability for service and the mileage it can cover in a given time, is a victim of its own history. Only 20 years ago scarcely anyone thought it practicable to operate a steam locomotive over more than a single crew district, but even before long runs were being taken into account in locomotive design the capacity of the type for runs as long as traffic and road characteristics permitted had been demonstrated. Our contemporary was reviewing the performances of steam as compared with diesel locomotives during 1939, and stated that 7,320 steam passenger locomotives averaged 45,000 miles a year per engine; this is an average of 3,750 miles a locomotive per month, or 125 miles a day. The report of the committee on "The Utilisation of Locomotives," presented at a recent meeting of the Railway Fuel & Travelling Engineers' Association, quoted an average daily mileage of 183·5 for each active passenger locomotive during the first six months of 1939. The best average mileage for a single railway was 269·7 per active locomotive day and the lowest 144·7. When compared with the performance of diesel-electric passenger locomotives during 1939 it is found that 58 such locomotives in passenger service averaged 178,600 miles a year, and this is equivalent to 14,900 miles a month and 497 miles a day.

Certain limiting conditions had to be taken into account in making this comparison, as, for instance, the fact that the diesel locomotives operated in circumstances which were ideal for a high degree of utilisation, whereas the steam locomotives were largely used for work on which high mileages are impossible. Even when the active steam locomotive mileage is compared with the mileage of the diesel-electric units, the mileage performance of the latter is outstanding. This situation suggests that one of the most important factors in the future development of the steam locomotive must be the improvement of its capacity for more intensive utilisation. Some of the more recently built locomotives have demonstrated their ability to remain out of the shop for classified repairs for well over 200,000 miles, and, as our contemporary adds, it does not seem beyond the possibilities of the future to remove some of the other limitations on continuity of service with which railway operating department officers still have to contend.

LETTERS TO THE EDITOR

(*The Editor is not responsible for the opinions of correspondents*)

The Road and Rail Transport Problem

Hill Top, Frith Hill,
Godalming,
May 3

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I appreciate the space and prominence which you have devoted to my book "The Road and Rail Transport Problem."

There are a few points, however, where the reviewer has misread my intention, possibly because I did not make it sufficiently clear. For example, in the first column the last thing I should suggest would be that the conduct of a business should be delegated to an outside adviser with no connected responsibility to the proprietors, and in the second column on page 640, I cannot understand how he arrives at the last but one sentence in the paragraph entitled "Position of Branch Lines." As regards the first paragraph of page 641 evidently the reviewer has taken my expression "Such a suggestion" on page 51 in a much more detailed sense than I intended. I was of course referring to the principle that part of the capitalisation of railways should be regarded as equity shares. Other points will occur to the careful reader of the book.

There are of course some points, though not many, on which

one might like to break a lance with the reviewer, but these are a matter of opinion and not misunderstanding.

Yours faithfully,

H. O. MANCE

We referred General Sir Osborne Mance's letter to our reviewer, who has replied as follows:—

"General Mance refers to three of the criticisms I made. I am glad to note that he did not intend to suggest that an independent expert should be responsible for the conduct of transport. I certainly gathered that policy matters should be so delegated. For example, on page 14 he states: 'From the experience gained it would seem that a similar Committee of Independent Experts is the most suitable body for dealing with large questions of principle.' And again on page 160 he suggests the appointment of 'some independent authority' on the lines of the Co-ordinator of Transportation in U.S.A. should be appointed and 'charged with presenting suggestions for transport policy to the Minister of Transport, who would alone be responsible for making a decision.' On branch lines, General Mance does not explain why he cannot understand the criticism I made of his formula. The fact is that I could not understand his formula! On Northern Ireland, I cannot agree that I took his statement in a more detailed sense than he intended. He made the categorical statement that the McLintock Committee suggested in 1938 that the State should acquire 'ordinary shares of the railway in return for part of the railway debt.' I said there was no evidence for this statement and I repeat it again.—YOUR REVIEWER."

PUBLICATIONS RECEIVED

Stock Exchanges (London & Provincial) Ten-Year Record. No. 32. 1940. London: Fredk. C. Mathieson & Sons, 16, Copthall Avenue, E.C.2. 10½ in. × 7½ in. × 1 in. 594 pp. Price 20s. net.—A feature of this work which is especially valuable to surtax payers, and to those entitled to income tax relief, is that (except in the mining portion) every variable dividend is generally set out and the approximate time of payment; the dividends are not allocated to the financial years of the different companies which not only vary but are altered occasionally. In the case of British railways the ordinary dividend per cent. per annum for the first half of the year is probably paid in August and the clear-up in the February or March following; it will generally be found that for railway as for other companies the smaller are interim dividends and the larger the final dividends for a financial period.

Route Surveying. By George Wellington Pickels and Carroll Carson Wiley. Second edition. London: Chapman & Hall Limited, 11, Henrietta Street, W.C.2; New York: John Wiley & Sons Inc. 7 in. × 4½ in. 427 pp. Price 21s. net.—The second edition of this work retains the form and essential characteristics of the first, which was published in 1930, but incorporates certain extensive revisions to bring it abreast of modern progress. "Route Surveying" presents in a single volume a comprehensive account of railway, highway, and other similar route surveys, with particular reference to Ameri-

can practice. The modern development of spiral curves is given special attention, and there are many useful tables in the book, which is completed by an index.

Holidays in Britain and Ireland, 1940.—Dean & Dawson Limited has issued its usual comprehensive selection of holiday tours in England, Scotland, Wales, and Ireland. The tours may be taken at any period, although the itineraries are based on summer timings and are subject to revision during the early and late seasons. The choice of holiday offered is sufficiently wide to cover all tastes.

Holidays in France, 1940.—In compliance with the Government's desire not to discourage reciprocal travel between England and France, Thos. Cook & Son Ltd. has planned a few short holidays in France for the current year. Special arrangements have been made, in view of the fact that the journey takes longer than in normal times, for those travelling beyond Paris to spend a night in that city on both the outward and homeward journeys. A folder giving details of the holidays planned and of the various documents with which the traveller must be provided is obtainable from the offices of the company.

Calvert's Mechanics' Year Book, 1940. Timperley, Cheshire: Sherratt & Hughes, St. Anne's Press. 6½ in. × 4 in. 160 pp. Illustrated. Paper covers. Price 6d. net.—This is an excellent six-

pennyworth of special value to mechanics and engineering craftsmen of various kinds. Written in a clear and lucid style, the text provides practical information on numerous workshop operations including illustrated references to the tools employed. There are tables of conversions, weights, fuel consumption figures, temperatures, etc., and also some useful electrical and other calculations.

Regional Transport Areas.—A map of the regional transport areas under the defence emergency organisation has been prepared by Electrical Press Limited, 60, Kingsway, W.C.2, and is on sale at 2s. 6d. Brief reference was made in THE RAILWAY GAZETTE of May 3 to the map, which, in addition to showing the boundaries of the wartime transport areas, locates (with addresses inset) the regional commissioners' headquarters and the district transport offices. The scale of the map is approximately 23 miles to the inch.

B.T.-H. Electrical & Mechanical Equipment for Marine Service.—Railway companies, many of which are important shipowners, will find this brochure of interest and value. It has sections dealing with electric ship propulsion and with auxiliary equipment, is profusely illustrated, and has a comprehensive index. The British Thomson-Houston Co. Ltd. states that, because of paper rationing, the number of copies available is limited, and consequently it is possible to send them only to persons in responsible positions who may be directly interested in the contents.

THE SCRAP HEAP

When all is said and done, locomotives today are just as necessary as guns and tanks.—*The Minister of Transport.*

* * *

The launching of London Transport's National Savings Group has already resulted in the purchase of 68,700 certificates.

* * *

Miss Phoebe Coombe Searle, of Ealing, who died on February 20, left £100 to the Institution of Civil Engineers Benevolent Fund.

* * *

A fine record of railway service is that of Driver J. Whalley of Wigan (C) depot, L.M.S.R., and his two sons, Harry and Robert. All three are engine-drivers at the same depot, and their combined years of service exceed 100. Driver J. Whalley started work on the former Lancashire & Yorkshire Railway in 1891, Harry in 1912, and Robert in 1916.

* * *

A LITTLE ACCIDENT

It was my first railway accident; I was five years old at the time. Between the main-line platforms at Salisbury and the Bournemouth bay, there is a luggage crossing. A porter was pushing a well-laden trolley over this. Simultaneously, an Adams "Jubilee" and a van came cruising into the station, round the sharp curve. Then two things happened. The luggage trolley stopped in the middle of the four-foot, and the "Jubilee" didn't.

There was a crash and a smash, and the trolley just vanished. Not so its

This A.R.P. gong in Freetown, Sierra Leone, is a steel railway sleeper which makes an effective tocsin



freight. A big black trunk exploded with a loud pop as the near-side buffer took it amidships, and scattered its contents like a giant seed-pod. A hold-all ceased to hold, laying all before us as it vanished under the advancing engine. A tuck-box full of jams and confectionery joined the Immortals in a single robustious burst of glass and

glucosity. A lady's hat-box rose gracefully into the air, blossoming as it did so.

That normally sober London & South Western "Jubilee" might have won a competition for the best-decorated engine. On her left side-rod, one gent's boiled shirt accompanied lace knickers in a waltz. A blue striped pyjama coat, the remains of the jams, a corset, and a sporting ulster were centred on the right-hand buffer and lamp-iron, and the cylinder cover was tastefully adorned by a big cart-wheel hat, its crown somewhat dinged in, but with pink roses and artificial fruit intact. Bits of wood, riven leather cases, and unidentifiable white garments strewed the permanent way back to the crossing.

Then things were said; strong men leaped down to rescue the massacred. One wriggled under the engine and detached a big tartan rug from the ash-pan. The unhappy one responsible for all was frantically trying to cram scattered treasures back into their devastated homes, to make things look less awful than they were. The engine unfeelingly sent a jet of boiling water shooting out over a bright print frock.

I don't remember any more, because a Great Western train appeared at that moment. It was the first time I had seen a double-framed engine with a brass dome, and the sight made me turn my back on the noble spectacle that had gone before. As I remarked, I was only five.

C. HAMILTON ELLIS



Mr. E. J. Missenden, General Manager, Southern Railway, presenting to Mr. & Mrs. Daniels, a framed photograph showing the King taking travel warrants from soldiers coming home on leave. Ticket Collector Daniels (extreme right) was the man who was on duty, and was "relieved" by the King's action

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

SOUTH AFRICA

New Underground Extension in the Reef Area

In terms of the South Africa Act, the Railway & Harbour Board has submitted a report to Parliament recommending the extension to Faraday Street of the line from Booysens to Village Main, and the construction of a line from Canada junction to Orlando West.

As a result of the increasing volume of native passenger traffic in the Reef area, particularly to and from the new native townships of Orlando and Pimville, the congestion caused by natives at Johannesburg and Jeppe is becoming a very serious matter. It was principally with the object of relieving the position at these stations that the new native station was established at Village Main. Although a number of trains have been diverted to the Booysens—Village Main route, the service has not received the patronage that was expected. It is estimated that the natives who are conveyed to and from Johannesburg and Jeppe total approximately 30,000 daily, of which some 18,000 use the Pimville—Orlando—Johannesburg—Jeppe section, and before the introduction of electrification the number of passengers making use of the Canada—Booysens—Village Main route averaged 3,800 a day.

The principal reason for the poor patronage of the latter route is the geographical position of Village Main station, which is not near enough to the commercial and industrial areas of the city. The extension of the line to Faraday Street, to bring the terminus of the line closer to these areas is, therefore, considered to be the only solution of the problem. The line will be entirely in tunnel, built on the cut-and-cover principle, and the new terminal station will be uncovered but sunk between retaining walls in a somewhat similar manner to Jeppe and Mayfair stations. The estimated cost of this extension is £162,313.

Proposed Canada Junction—Orlando West Line

With regard to the proposed new line from Canada junction to Orlando West ; the Municipality of Johannesburg has decided to embark in the near future upon a further large-scale housing scheme for non-Europeans at Orlando West. A total of 6,000 houses is to be provided, and once building begins, the houses will be erected at the rate of 240 per month. The eventual population of this township will be in the vicinity of 45,000, and it is probable that the residents of Alexandra township will also be moved to Orlando at a later date. It is estimated that when the scheme has been completed an average of 9,000 passengers a weekday will travel between the township and the

city, and although there is likely to be an initial loss on the working of the proposed line, it is anticipated that when the area is fully developed the loss will be turned into a profit. The new line will be 5·3 miles in length and is estimated to cost £167,728.

Wages and Cost of Living

The question of assisting railwaymen to meet any increase in the cost of living arising out of the war has been dealt with by the Minister of Railways in a message to the staff. The message states :—

"With regard to the question of the possible increase in the cost of living, the Minister has given, and continues to give, the very closest attention to this matter. He feels that it will be appreciated that the administration cannot proceed independently in a matter of this kind, but must act in concert with the central Government and other large employers of labour. For the administration to act otherwise would merely tend to interfere seriously with the efforts which are being directed towards the maintenance of conditions on a normal basis as possible, and would, in the long run, prove harmful to the interests of all concerned. The Minister does not wish it to be understood, however, that it may not be necessary to meet an increase in the cost of living. What it does mean is that such an increase should be met only as and when it occurs, and only to the extent necessary to cover the increased commitments of railway servants. This means the increases would not be uniform throughout all ranks but would be higher in the case of the lower-paid workers than in the case of those higher in the wage scale. Increases cannot be granted which are designed to cover the increased cost of luxury goods, but only to cover the extra cost involved in the purchase of necessities of life. The Minister would emphasise that the present war is likely to last a considerable period and therefore hasty action would be inadvisable. The Minister would also call the attention of the staff to the fact that the Public Service Commission is recognising the establishment of a small committee to watch the position from the point of view of the public servants and would welcome a similar step being taken by the staff associations. The suggestion is that the staff associations might come together and appoint a committee of, say, four reliable and expert men from their own ranks, whom the administration could recognise as competent to advise it on behalf of the staff. This committee would be able to give useful assistance in determining immediately if the rise in the cost of necessities of life was such as to warrant the grant of relief. The committee could also co-operate with the Public Service Commission to ensure uniform action throughout the State's services."

NEW ZEALAND

All "J" Class Locomotives Now Received

The final instalment of "J" class locomotives shipped from the North British Locomotive Co. Ltd., Glasgow, New Zealand, and all 40 engines are now in commission, 30 on North Island lines and 10 on South Island lines. They are giving satisfactory service.

Wellington—Paekakariki Electrification

The installation of electrical equipment on the Wellington—Paekakariki

section of the main trunk line will be completed in May. In this connection, the planning of the Tawa Flat deviation—work on which was begun in 1925—provided for a double track from a point some distance south of Kaiwarra to the new Tawa Flat station, a distance of 7 miles 48 chains, and the two tunnels on the section were designed for double track. The department later undertook a further doubling of the main line between Plimmerton and Paekakariki, and also the electrification, electric signalling and centralised traffic control of the whole section from Wellington to Paekakariki.

The new station at Plimmerton, on an island platform 800 ft. long, was opened to the travelling public when double-line working and centralised traffic control were introduced between Plimmerton and Paekakariki on February 25. To give improved access to this station, a subway is to be built at the north end of the platform.

The length of double track now equipped with automatic signalling has already proved its worth in facilitating the punctual and more expeditious running of passenger and freight traffic. On a recent morning a freight train of 63 vehicles, of a total weight of 815 tons, passed through Plimmerton during a busy passenger traffic hour, without causing either the delay or inconvenience to the public which would have occurred under the old method of operation.

Napier Station Extensions

Alterations have begun at Napier station, necessitated by the increased traffic to be handled in the Napier yards consequent upon the completion of the railway linking Napier with Gisborne. Very considerable permanent way extensions and alterations are involved, and an extension of the locomotive shed is in hand at the moment. Other works in the scheme will be the reconstruction of the station platform to form an arrival and departure platform for East Coast traffic. It is probable that the line to the Port of Napier will take off the main East Coast line.

Compulsory Unionism

Compulsory unionism has been applied to the Second Division of the railway service as from March 4, 1940. Employees who are not already members of one or other of the recognised service organisations are allowed a period of from 8 to 16 weeks, according to the nature of their employment, in which to apply for membership of one of the railwaymen's industrial bodies, namely : (1) The Amalgamated Society of Railway Servants ; (2) the Locomotive Enginedriver's, Firemen's & Cleaners' Association ; (3) the Railway Tradesmen's Association.

The decision of the Minister of Railways to introduce compulsory unionism was made upon representations from the Amalgamated Society of Railway Servants, and is embodied in a regulation which lays down that the continued employment of any person to whom the regulation applies shall be conditional

on his holding membership in one of the organisations. The regulation affects all members of the Second Division and all others who are subject to the conditions of employment ordinarily applicable to that division, except apprentices and juniors under 18 years of age. Employees in the First Division are not included in the regulation.

VICTORIA

No Case for One-class Travel around Melbourne

Based on the analogy of Sydney, where one-class travel was recently introduced on the suburban lines, there has been a demand in some organs of the press for a similar move in Melbourne.

Conditions here are, however, very different. In New South Wales suburban fares are generally on a higher scale than in Victoria, and there was a greater difference between first and second class fares also. The percentage of first class travel in the Sydney area has fallen steadily but rapidly to little more than 3 per cent., whereas in Melbourne the percentages are about 33 per cent. first class and 66 per cent. second class, so that there is a definite public demand for higher class travel in this State.

An even more weighty argument against the abolition of first class fares in Victoria is that it would involve the State in an approximate loss of £150,000 a year, so that one-class travel in Melbourne is unlikely to materialise.

UNITED STATES

More Floods in California

According to our American contemporary, *Engineering News Record*, serious floods in the Sacramento River valley in California recently attacked the 30-mile diversion of the Southern Pacific Railroad being constructed to avoid the lake which will be formed by the great Shasta dam. One steel trestle pier 74 ft. high in a long curved viaduct, which had been erected on four concrete pedestal footings, was found to be supported by only two pedestals—one of which had already canted appreciably—when the flood subsided. A third corner of the trestle base was resting on a driftwood log lying on a partly overturned third pedestal, and it is surmised that—as the 80-ft. girders on each side of the trestle were not continuous spans—the rails, with a little assistance from this log, alone prevented the trestle from capsizing. The decking had settled 18 in. and moved 12 in. out of alignment due to movement of the trestle as a result of the part-collapse of its supports. [This diversion has been described and referred to in these columns on several occasions—ED., R.G.]

Southern Pacific Daylight Expresses

On March 30 two important changes took place in connection with the Daylight expresses between San Francisco and Los Angeles. The original Daylight trains, which have been reconditioned,

have been placed in a new service leaving each of these cities at noon and arriving at the terminals at 9.45 p.m. Heavy demands for accommodation on the streamlined Daylight trains since their inauguration on the morning service in each direction, have made this additional afternoon service necessary. It may be remembered that two additional* streamlined trains were completed in the spring of 1939, and it was the delivery of these that released the original trains for reconditioning for the new afternoon service.

Also since March 30, 15 min. have been cut from the overall timings of the two morning trains, each of which now leaves one of the cities at 8.15 a.m. and arrives at the other at 5.45 p.m., instead of, as formerly, at 6 p.m.

The Daylight trains, each composed of 14 passenger cars, earned a net revenue of \$3.21 a mile for the twelve months ended June 30, 1938, and \$3.85 a mile for the succeeding twelve months.

COLOMBIA

National Railways Proposed Extensions

The quarterly report of the Administrative Council of the Colombian National Railways describes the lines, under construction or projected, which are to be completed with the proceeds of the Railway Bonds, the issue of which was announced last year (see THE RAILWAY GAZETTE of November 10, 1939, page 604). The lines in question are the following: (1) the extension of the Aguacalera Railway to Tumaco, with the causeway and reclamation work in the port; (2) the link line of the Western Trunk Railway between La Virginia and El Pintado, which when finished will give direct communication between Buenaventura and Puerto Berrio on the River Magdalena via Medellin (some 58 km. of the link line are finished and 24 km. remain to be constructed); (3) the extension of the Central Northern Railway, 1st Section, to Bucaramanga; and (4) the line to join up the two sections of the Central Northern Railway.

SPAIN

Madrid Metropolitan

The Madrid Underground Railway carried 139,689,335 passengers in 1939, a record total. According to the annual report of the company, just published, the increase is accounted for partly by the opening of the new Embajadores-Lavapiés-Sol section in 1936, and partly by the lack of other means of transport, many of which disappeared during the civil war. The stations, track, and equipment were left in a lamentable state of disrepair after the war, apart from the damage caused by disasters such as the explosion at Lista station, arising out of the use of the tunnels for storing explosives. Gross receipts were 24,831,273 pesetas, compared with 18,290,239 in 1938, an increase of

35.7 per cent. Working expenses amounted to 10,514,735 pesetas, and the ratio was 42.35 per cent. Debenture interest and sinking fund and other first charges, including an appropriation of 804,135 pesetas to reserves, accounted for 7,079,299 pesetas, and of the remainder a dividend is declared of 6½ per cent., with a supplementary dividend of 1½ per cent., 1,105,486 pesetas being carried forward. Construction on the new Arguelles section is progressing, and it is hoped the new line may be inaugurated early in 1941. The Bulevares line is also well advanced.

MEXICO

Railway Transfer

The Mexican Government, through its Department of Communications and Transport, is to purchase the 330-mile standard-gauge Kansas City, Mexico & Orient Railway from its present controlling company, the Atchison, Topeka & Santa Fe Railroad. Extensions over the Rio Grande river, and from El Paso (Texas) to Topolobampo, on the Gulf of California, are to be made.

ANGOLA

Proposed New Line

A 20-mile railway from Cassoalala to Dondo is to be built by the Railway Division of the Government of Angola and will connect with the Luanda Railway, which will undertake the operation. Estimates for the construction of the line are 7,250,000 angolares.

MOZAMBIQUE

New Lines

The Manjacaze branch of the Inhambarane-Gaza railway was extended by eight miles during February. Work is also being pushed ahead rapidly on the first 60 miles of the new railway which is to connect Tete with the Central African Railway at Dona Ana, and give the Portuguese territory to the north of the Zambezi district direct connection with Beira via the Zambezi bridge and the Trans-Zambezi Railway. Construction of the first section of the new line out of Dona Ana is in the hands of Pauling & Co. Ltd.

SWEDEN

Traffics in 1939

The traffic revenues of the privately-owned Swedish railways amounted to Kr. 142,000,000 (£8,350,000) during 1939, against Kr. 126,500,000 for the preceding year. The net profit totalled Kr. 15,300,000 (£900,000), which exceeds the 1938 figure by over Kr. 7,000,000. The combined net profit for 1939 of the State and private railways, after setting aside Kr. 37,600,000 to renewal funds and payment of interest, mainly on invested State capital, amounts to Kr. 54,200,000 (£3,190,000), compared with Kr. 20,700,000 in 1938.

* Described on page 685 in our issue of April 28, 1939—ED., R.G.

THE OUTDOOR MACHINERY DEPARTMENT—VI*

Notes on the constitution, duties, and relationships with other departments of the Outdoor Machinery Department of a British main-line railway

By J. DALZIEL, formerly Assistant Electrical Engineer, L.M.S.R.

THERE is this radical difference between O.D.M. and locomotive repairs: a locomotive withdrawn for repairs is replaced by another, and traffic operation is not affected, whereas the stoppage of a fixed machine, often allowing of no satisfactory alternative course of working, does. These repairs are therefore always urgent.

Repair of small machines can best be done by bringing them bodily into the repair shop and reconditioning them as a whole, and in practically all cases the unit parts of electrical equipment can be dealt with in this way. Large machines embodying heavy and cumbrous structural work must be dealt with on site to a large extent, parts requiring repair or renewal being dismantled, dealt with in the shops, and re-erected. In general, the work on site, except in the case of very extensive installations which may be large enough to be self-contained with their own repair gang and repair shops, should be done by gangs from a central depot; if done by local staff either regular maintenance must be interrupted and suffer in efficiency, or it must be inferred that the local station concerned is carrying staff not normally fully employed.

It is true that this course entails the central depot men having to be paid lodging expenses, travelling time and, generally, overtime, but it is presumably better to accept these outlays temporarily than to incur the cost of providing permanently local staff for work which only occasionally arises. Alternatives are to take on temporary local staff when required, and to employ local contractors. Temporary staff are apt to be second rate, and in any case, being unfamiliar for the most part with the work, require extra direction and supervision; they are also least available in busy times when most required. The latter drawback applies also to local contracting, in connection with which there are also questions of specifications, terms of contract, supervision of work in progress, and so on, all of which take up time and entail expense on the railway over and above the contract price.

Restrictions on Working

It might also be thought that the restrictions on working imposed by traffic considerations, or in hotels and offices where work may be done only between certain hours, would deter contractors from seeking such contracts and cause them to quote high prices; but it is the writer's experience that a contractor can generally be found, and always in slack periods, to take on such a job—once at least.

That the methods employed, the quality of the materials used, and the work done are equal to those of the railway itself are matters of specification and supervision; the advantages of elimination of travelling time and lodging allowances are more effective in some classes of work than others, e.g., light work of a repetitive nature, such as electric wiring, as against heavy work, such as that on cranes and hoists, to deal with some of which the railway provides special appliances or makes use of appliances available to it alone, such as breakdown cranes.

An essential feature of the organisation, whatever it may

be, is that it deals rapidly and effectively with breakdowns, and, unless the railway can rely on a contractor or contractors to be available to cover any of the widespread depots at the shortest notice, it must itself carry adequate staff to deal with any situation that may arise. So long as the staff can normally be fully employed on routine maintenance and repair work with possibly a modicum of new work, there is no reason why it should be more expensive for the railway to do its own work than to let it out to contract; in the former event the railway will certainly have more control of it.

The shops, whether those of the railway or of a contractor, must of course deal with the great bulk of the actual repair and reconditioning work to be done. In the writer's view one of the main essentials with respect to any of the repair work to be done, is that it should remain in the control of the O.D.M. Department.

Unsuitability of Main Shop Organisation

In these days the normal shop organisation, based on locomotive output and with all the work programmed accordingly, is unsuitable for, and liable to be upset by, the intrusion of external and casual work like that of outdoor machinery or electrical. Even if confined to the millwrights' and electrical shops, if these serve also the locomotive shops, outdoor machinery repairs are apt to take second place; moreover, the O.D.M. Department will properly want its repairs done in the order of their urgency, whereas the shop management roster will be normally on the basis of date of receipt. Clearly a large measure of, if not complete, control of the shops concerned with its repairs should be secured to the O.D.M. Department. It will, of course, have the control over contracted work of the man who pays the piper. As regards repairs by manufacturers, the writer's experience of repair work done by the original makers of machines and particularly of electrical machines, is that such work is affected in much the same way as work, other than locomotive, in the locomotive shops, i.e., the manufacturers' shops are organised for mass production, and, as repair work entails a special organisation, its costs are very high; also the execution of the work is by no means speedy.

Even in the case of mechanical work on repairs, or modification, of machines by the original makers, the absence of competition perhaps, together with the special costs of dealing with a proposal out of the usual course of manufacture, has entailed what have appeared to be very high quotations. It is, of course, quite usual for repair work to be done on the basis of time and material plus a percentage; this should be satisfactory if checks are available, but even under this arrangement surprisingly high charges have sometimes occurred.

There are concerns which specialise in repair work, and whose organisations, and consequent costs and speed of doing the work, are much more suitable to the execution of repairs than those of the original manufacturers. Provided they are prepared to be more or less at the beck and call of the railway it would appear to be a perfectly sound proposition for the railway to give them its work, so long as their costs, together with those of the railway incurred

* Previous articles appeared in our issues of March 1, 15, 29, April 12 and 26.

in placing and supervising the contract, do not materially exceed those of the railway in doing the same work. These concerns probably have an advantage over the railway shops in the volume of work they deal with, though this may be a disadvantage from the point of view of their ability to respond instantly to a railway demand.

Advantages of Repair Work by Railway

Work in railway shops in general is exceedingly well done and reliable, and it is a distinct advantage to have full control. Repair work in the railway shops has the advantage of the flexibility and adaptiveness of both the supervisory and operative staff in dealing with special circumstances. There have been many proofs of this in the writer's experience. For example, the lifts of a new and famous hotel had to be rebuilt by the railway without interrupting the hotel business after urgency had enforced the acceptance of the builder's designs notwithstanding known weaknesses which speedily developed into breakdowns. Their life thereafter was 27 years.

Two of the three main turbo generators of an important power station broke down within a week of each other; the maker's best quotation for transit and repairs was six weeks, during which locomotive and carriage and wagon shops would have had to curtail their outputs. Temporary repairs of the second broken-down machine were effected by the railway electrical staff in the course of a couple of days and the situation saved.

The erection of a machine on which the opening of an

important service depended threatened to be late by a fortnight. The work was taken over by the railway, divided into sections, erection gangs drawn from suitable depots, and the machine set to work in four days.

An old type generator in a hotel engine room very difficult of access failed to earth on a connection between commutator and armature. It was repaired, to work another 10 years, by pumping in a home-made insulating cement. No contractor would have dared suggest such a procedure.

In respect of new work, manufacture to the extent required to even up the flow through the repair shops is desirable. In earlier days it was necessary for the railway to make some apparatus required for various projects—such in particular as automatic switches—because they were not otherwise available at a cost compatible with the projects, and capstans, friction hoists and the like, of types not available on the market but having outstanding advantages, were also manufactured.

It may be suggested that the episodes and practices described were those of a bygone period before the engineering world had settled to the use of electric operation. It may be so, but the railway cannot be a loser by its perpetuation and encouragement of organisation and methods endowing its staff with knowledge, resourcefulness and adaptability, rendering them fit and willing to handle any problem that may be presented.

(Concluded)

Australian Commonwealth Railways

THE Commonwealth Railway system consists of the Trans-Australian Railway (Port Pirie—Kalgoorlie), 1,108 miles of standard gauge; the Central Australia Railway (Port Augusta—Alice Springs), 771½ miles of 3 ft. 6 in. gauge; North Australia Railway (Darwin—Birdum), 316½ miles, 3 ft. 6 in. gauge; and the Australian Capital Territory Railway (Queanbeyan—Canberra), 5 miles of standard gauge; in all, 2,201 route miles. The results of working the Commonwealth Railways for the year ended June 30, 1939, showed an improvement in gross earnings of £103,554, or 23·4 per cent., due to increased traffic on all the four railways. On the other hand, working expenses had increased by £130,239, or 25·4 per cent., partly owing to the cost of handling the increased business and partly to the heavier wages bill imposed by the Public Service Arbitrator's Determination. Extensive flood damages on the Trans-Australian and Central Australia Railways, which entailed an extraordinary expenditure of £26,307, contributed to the unsatisfactory result. Loss on working of the whole system amounted to £95,262, as compared with the shortage in 1937-38 of £68,577. An expenditure of £116,770 from funds specially provided by the Treasury for sleeper renewals on the Trans-Australian Railway, is not included in the working expenses. Interest is shown as £395,084. Principal operating results for the four lines making up the Commonwealth system are summarised as follow:—

	Gross earnings		Working expenses	
	1937-38	1938-39	1937-38	1938-39
	£	£	£	£
Trans-Australian Railway	274,240	337,616	301,927	372,266
Central Australia Railway	122,622	142,279	162,939	207,510
North Australia Railway	38,165	55,329	40,830	54,720
Australian Capital Territory Railway	7,806	11,263	5,814	7,253
Totals	442,933	546,487	511,510	641,749

Although the aggregate results showed an increased deficit, the North Australia and Australian Capital Territory lines both recorded surplus net earnings which were

the best for many years. On the whole system 901,916 train miles were run, as compared with 758,259 in the previous year. The number of passengers carried was 117,139, against 99,670 in 1937-38, and 185,818 tons of goods were transported, against 132,050 tons. Coaching receipts amounted to £322,974, compared with £252,673, and goods and livestock traffic produced £223,513 in 1938-39, against £190,260 the year before. The working ratio was 117·43 per cent. A number of adjustments of rates was made during the year, generally of a minor nature. The improvement in passenger traffic on the Trans-Australian Railway was due mainly to the saving of a day on the overland journey consequent upon the introduction of the accelerated timetable on June 4, 1938. A further publicity campaign was undertaken jointly with other States with the object of increasing passenger movement between the eastern States and Western Australia. A co-ordinated road and rail service was established between Darwin and Alice Springs and produced additional traffic. Acceleration of train services is making increasing demands on the maintenance departments of both permanent way and rolling stock. Air-conditioning of cars is being completed, and sleeping compartments of brake vans have been equipped with electric fans for the comfort of train crews. A Hallade recorder was being obtained for the Trans-Australian Railway, to secure still further improvements in smooth running. Flood and storm damage on the Trans-Australian and Central Australia lines caused serious delays to trains, and the cost of temporary and permanent repairs, as mentioned above, added a heavy burden on working expenses. The damage north of Oodnadatta was the most extensive in the history of the railway, and repairs and protective works will entail further heavy expenditure. Industrial agreements were entered into during the year with the unions, and the provisions of the Commonwealth Public Service Arbitrator's Determination also operated throughout the period.

COOLING DOWN AND WASHING OUT LOCOMOTIVE BOILERS

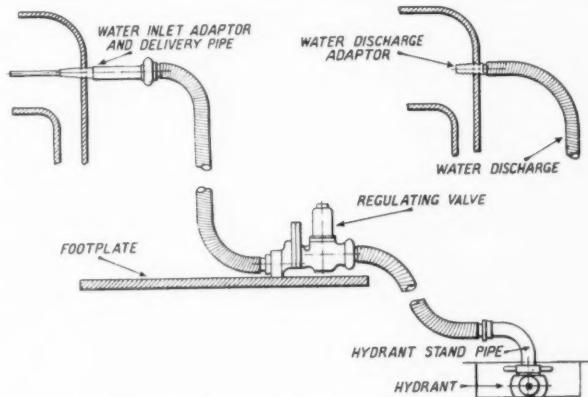
A standardised system has been adopted by the L.M.S.R. and is to be installed at all the company's motive power depots

OF the many problems which concern the motive power department of a railway one of the most important, in order to ensure maximum locomotive availability at running sheds, is that of maintaining a high standard of firebox mechanical efficiency. Sudden temperature changes set up severe stresses and strains, the cumulative effect of which, leading to stay and tube troubles, causes locomotive delays in traffic, frequent withdrawals for repairs, and shortening of the life of the firebox.

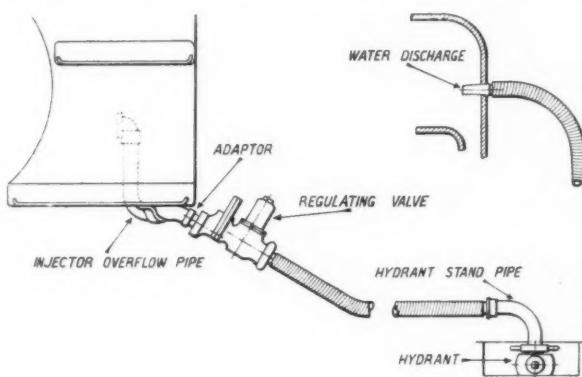
Much of the trouble experienced at running sheds with locomotive boilers can be traced to injudicious cooling down and steam raising, and the London Midland & Scottish Railway has recently extended its system of control to ensure that all temperature changes in the boiler during washouts are made as gradual as possible. For some years definite times have been stipulated for cooling down and steam raising, but the rate of flow of water into the boiler during the cooling down process was governed by the pressure at the hydrant, and, as this varied with the

the larger ones from 5 to 8. The photograph reproduced herewith shows it in use on a Class "5P5F" mixed traffic locomotive of the 4-6-0 type.

The boilers of engines having no suitable injector overflow pipes and certain others fitted with condensers cannot



Arrangement for engines where injector overflow pipes cannot be used

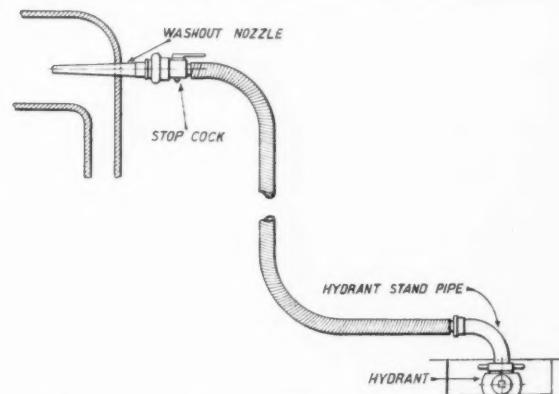


Cooling down arrangement for use with injector overflow pipe

demand on the supply mains, there was no positive control over the amount of water entering the boiler. An arrangement based on the use of a pressure and quantity regulating valve has now been introduced ; this is standardised and has already been installed at some of the principal locomotive depots. By the courtesy of Mr. W. A. Stanier, Chief Mechanical Engineer, and Mr. D. C. Urie, Superintendent of Motive Power, we were recently afforded facilities for seeing the arrangement in operation at the Cricklewood depot of the L.M.S.R.

The method now adopted has the merit of simplicity both in respect of the fittings utilised and in operation. After the boiler has been blown down the cooling operation immediately follows. The pressure and quantity regulating valve designed for use at those depots having hydrant pressures of 20 lb. per sq. in. and over is attached to the adaptor on the live steam injector overflow pipe and connected to the washout hydrant pipe. This valve is a dual one and is marked for engines of Classes "1" to "4" on one side and Classes "5" to "8" on the other. Engines are classified in accordance with their power capacity, the smaller type being grouped between classes 1 and 4 and

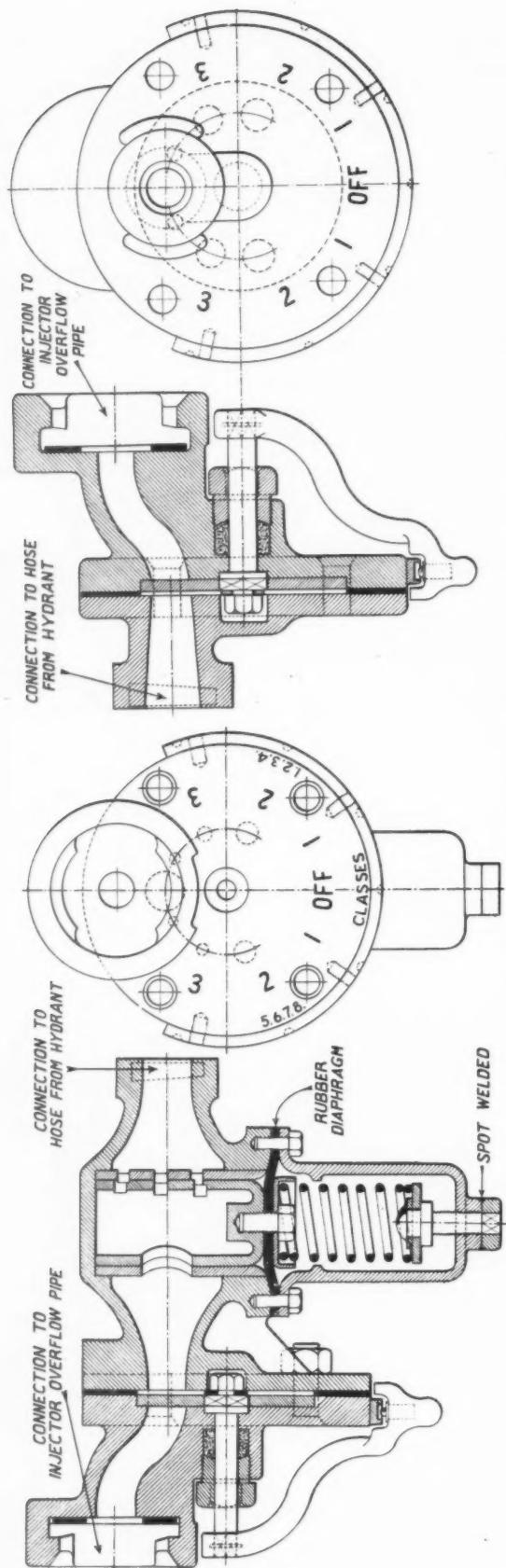
be cooled down by this method. For these the water employed for the purpose is introduced through a washout plughole on the firebox back plate above the firebox crown by means of an adaptor and a long pipe extending over the top of the inner firebox. A short length of hose is coupled to this adaptor, and the other end of the hose connects with the pressure and quantity regulating valve resting on the footplate, the latter being coupled to the



Arrangement of hosepipes and connections for washing out boilers

washout hydrant pipe. This arrangement is exemplified in the drawings.

The overflow water from the boiler during cooling down is taken from the top washout plug hole on the firebox back plate adjacent to the gauge frame. A special plug adaptor having a length of 1½-in. hosepipe attached is utilised for



Left : Pressure and quantity regulating valve for use at depots where hydrant pressure is 20 lb. and over and (right) quantity regulating valve for use at depots where the hydrant pressure is lower

this purpose, the hose being of sufficient length to lead the water into the pit.

The basic feature of the method is, as already inferred, to control the process of cooling down the boiler so that it shall be uniform throughout the operation, this being the function of the pressure and quantity regulation valve. This valve is provided with a sector plate or flange on which positions are marked and notches provided, the operator setting the position for a given rate of flow by means of a small handle and pointer attached to and movable over the sector. For engine of Classes "1" to "4" (Group A), the positions 1, 2 and 3 of the sector produce the following results :—

No. 1 position ...	First two hours (2½ gal. per min.)
No. 2 " "	Second " (6 ")
No. 3 " "	Final hour (20 ")

whilst for all engines of Classes "5" to "8" (Group B), excepting Class "7P" 4-6-2 and Garratt 2-6-6-2 locomotives (Group C), the periods and rates for the same positions are :—

No. 1 position ...	First two hours (5 gal. per min.)
No. 2 " "	Second " (12 ")
No. 3 " "	Final two hours (25 ")

For the 4-6-2 and Garratt engines, positions 1, 2 and 3 give a rate of delivery for the periods indicated below :—

No. 1 position ...	First two hours (5 gal. per min.)
No. 2 " "	Second " (12 ")
No. 3 " "	Final two hours (25 ")

The figures in all cases are for a hydrant supply pressure of 20 lb. per sq. in. and over.

A quantity regulator valve has also been designed for use at depots where the hydrant pressure is less than the figure stated, but the method of use and the cooling down times for the corresponding positions are the same. A point of difference is, however, that unlike the regulating valve for pressures above 20 lb. per sq. in. the handle of the one for use at lower pressures can be operated on either side for all classes of engines as may be most convenient.

Careful observance of the stipulated times results in a uniform rate of cooling down being achieved, as shown in the graph which shows the results of actual tests carried out on typical locomotives of the classes enumerated above, and this adherence to the prescribed periods results in the boilers suffering the minimum of stress during cooling down. The boiler can be emptied at the completion of the five or six hours cooling process.

THE BOILER WASHING OUT PROCESS

When washing out the boilers of the locomotive full use is made of the standard equipment described, and the times expressed in hours taken in cold water washing out are as set out below :—

Class of Engine	Blowing Steam Down	Cooling	Filling Boiler and Steam Raising
Dock tanks	3½	5
1P and 1F tender and tank	3½	5
2P tank	3½	6
2F tender and tank	3½	6
2P tender	3½	5
3P tank	3½	5
3F tender and tank	3½	6
4F tender	3½	6
3P tender	4	5
4P tender and tank	4	5
5P, 6P, 7F, 8F tender	4	8
7P tender	4	6
Garratt	4	8

To enable firebox examinations to be carried out at prescribed periods, it is necessary for the firebox to be sufficiently cooled to allow the shed boilermasters to make the examination of the firebox. For this purpose the boiler is cooled down in the same manner and rate as for washing out, except that it is not necessary to cool down



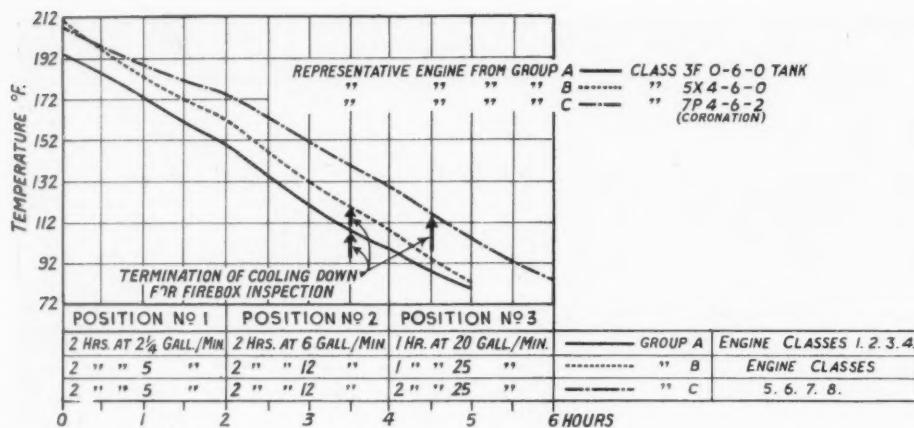
Specially designed pressure and quantity regulating valve in use on Class 5 mixed traffic locomotive, L.M.S.R., showing portable truck for carrying hose lengths and nozzles



Arrangement used for engines having no suitable injector overflow pipes, showing footplate control valve on hose



Examining firebox water spaces by means of acetylene light and mirrors



Graph showing results of actual tests on relation of boiler temperatures with cooling down times

for the same length of time as for a boiler being emptied, and the following instructions are laid down :—

TIME TO BE TAKEN IN COOLING DOWN FOR FIRE-BOX EXAMINATION (BOILER FULL)

For all engines of Classes "1" to "4" (Group A).—The pressure and quantity regulating valve is set on the side marked "Classes 1, 2, 3, 4" in positions 1, and 2 of the sector for the following periods, to give the rates of delivery shown—

No. 1 position	... ... ... ...	2 hours (2½ gal. per min.)
No. 2 "	... ... ... ...	1½ " (12 ")

For all engines of Class "5" to "8" excepting Class "7P" 4-6-2 and Garratt 2-6-6-2 class (Group C).—The pressure and quantity regulating valve is set on the side marked "Classes 5, 6, 7 and 8" in positions 1 and 2 of the sector for the following periods, to give the rates of delivery shown—

No. 1 position	... ... ... ...	2 hours (5 gal. per min.)
No. 2 "	... ... ... ...	2 " (12 ")

For engines of Class "7P" 4-6-2 and Garratt 2-6-6-2 engines (Group C).—The pressure and quantity regulating valve is set on the side marked "Classes 5, 6, 7, 8" in positions 1, 2 and 3 of the sector for the following periods, to give the rates of delivery shown—

No. 1 position	... ... ... ...	2 hours (5 gal. per min.)
No. 2 "	... ... ... ...	2 " (12 ")

The rates of delivery shown above apply for any hydrant supply pressure of 20 lb. per sq. in. or over. At those depots

where the hydrant pressure is below 20 lb. per sq. in. the quantity regulating valve must be set as follows—

For all engines of Classes "1" to "8" not including "7P" and Garratt engines—

No. 1 position of sector	... ... ... ...	2 hours
No. 2 "	... ... ... ...	1½ "
<i>Class "7P" and Garratt engines—</i>		
No. 1 position of sector	... ... ... ...	2 hours
No. 2 "	... ... ... ...	2 "
No. 3 "	... ... ... ...	½ "

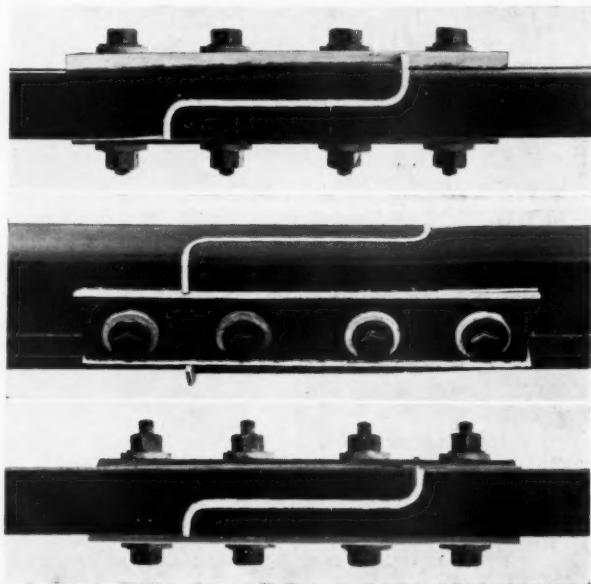
After the expiration of the periods laid down, the firebox and damper doors may be opened to allow further natural cooling down if necessary, without danger of sudden contraction of the firebox. Should it be necessary to empty the boiler for repairs to be carried out, the times stipulated for cooling down for washing out are worked to. It will also be appreciated that under a controlled system of cooling down considerable economies in water consumption will be obtained. Examination of water spaces is effected by means of an acetylene torch and mirrors, as illustrated in one of the accompanying pictures.

A handy form of three-wheel mobile truck has been introduced for the conveyance of the various nozzles, hose-pipes, etc., at the depots. It has been found very useful as ensuring that the components are readily accessible at any point required with the minimum of trouble and delay.

Brogden Insulated Joints on London Transport Railways

IN connection with the use by the London Passenger Transport Board of the Brogden type of chamfered joint, experiments have been made with a variety of insulated joints. The first two photographs reproduced show a joint where one end of the rail is joggled and has an offset on the outside equal to the thickness of the insulated fibre. This leaves a setback on the running edge of the joggled rail which was built up by oxy-acetylene welding, thus providing a continuous running edge. Experience indicates that this building up is unnecessary.

The third photograph shows a joint in which joggling is omitted, and one rail is offset by $\frac{1}{8}$ in. in relation to the other; the remaining space required for the accommodation of $\frac{1}{4}$ in. thick insulated fibre is provided by additional planing of the rails. This type has proved satisfactory from a strength point of view; the offset of one rail in relation to another on the running edge has not proved detrimental, and the avoidance of joggling is an advantage.



LEAMINGTON SPA STATION RECONSTRUCTION, G.W.R.

The old Brunel station, having become inadequate, has been replaced by a spacious new one incorporating modern facilities

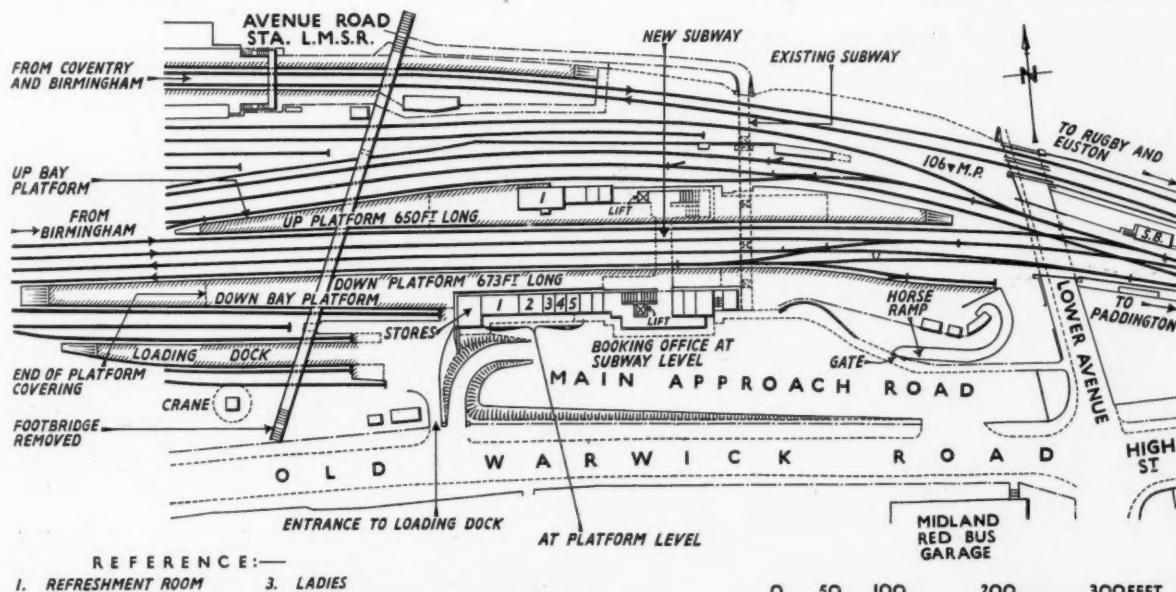
A NOTABLE work—that of the modernisation, entailing the enlargement and almost complete reconstruction, of Leamington Spa station—was completed towards the end of last year by the Great Western Railway. Little has been left of the old station, although the running lines and the new platforms are still in their former positions. The latter, however, have been considerably widened and their height raised to the standard above rail level. The up platform is now 650 ft. and the down 670 ft. long, and they are covered for 360 and 480 ft. of their lengths respectively. Pre-cast

concrete paving, made at the company's Taunton depot, is used on the platforms. The platform roofing is in accordance with the modern standards of the Great Western Railway, as may be seen from our illustrations, and involves the minimum of obstruction on the platforms. The old platform coverings were of wooden construction dating from 1853, and originally the running lines were spanned by a roof 60 ft. wide. This part of the covering had, however, been taken down many years ago, leaving only the platforms themselves covered.



Frontage of the new Leamington Spa station. The polished granite plinth is a feature

In place of the old combined high-level and low-level approach on the down side, a new approach road has been formed at the level of the new subway, or about 12 ft. below rail level, covering three-quarters of an acre; over 18,000 cu. yd. of excavation had to be removed from this site. It leads to a completely new steel-framed block of station buildings, including, at road level, the booking office, parcels office, cloakroom, cycle store, and refreshment room cellar, and, at platform level, handsome refreshment and waiting rooms, staff offices, and other usual



General arrangement of the reconstructed station at Leamington Spa, G.W.R.

Right : General view of the spacious forecourt of the new station



accommodation. On the up platform the old building has given way to modern station buildings, including a large refreshment room, waiting rooms, and the usual facilities.

The old subway at the east end of the station has been retained as a public footway giving access from one side to the other of the railway and providing direct connection between the G.W.R. station and the neighbouring Avenue Road station of the L.M.S.R. The footbridge which formerly spanned the line to the west of the station has been removed. A new subway, 15 ft. wide, now gives access from the main booking office on the down side to the up platform, and electric lifts are provided for luggage and parcels. New approaches have had to be constructed to the loading docks (one by means of a reinforced-concrete horse ramp).

Much water was encountered during excavation below platforms, and this led to the adoption of cavity wall construction throughout. All retaining walls under the platforms and the subway abutments were set back $6\frac{1}{2}$ in. to allow for a $4\frac{1}{2}$ -in. brick lining separated from the walls by a 2-in. cavity. Some 750 sq. yd. were so lined, and drainage pipes were also laid through the walls below floor levels, connecting with additional drains under the floors, with access for inspection through manholes.

The walls of the booking hall are lined with tiling above a polished granite plinth, and conspicuous on one wall is a clock presented by the Corporation of Leamington to commemorate the reconstruction of the station. A feature of the new station is the polished granite plinth which runs the full length of the main building, and forms an effective contrast to the Portland stone with which the sheathing



Left : The reconstructed down platform at Leamington Spa station, G.W.R. Note the large windows of the waiting and refreshment rooms and the freedom from obstructing roof supports

of the steel-frame structure is covered, except on platform elevations, where the brick is exposed. The roofs of the buildings are flat and surrounded with low parapets. In all the buildings and in the subway electric lighting is provided, while gas lighting of the most modern design is used on the platforms and in the approach. At the present time, of course, the illumination has been severely restricted.

During constructional work certain interesting relics were discovered. The new main building on the down side necessitated the construction of a retaining wall under the platform to form the back wall of the various offices. The depth of excavation below platform was approximately 14 ft., exclusive of a trench 4 ft. deep for the foundations of the retaining wall. In this excavation some of the old timber piles used to support the original roof, built by Brunel, were discovered, and were in perfect condition, although at some stage in their life they had evidently rotted over the upper parts of their lengths, and the rotted portions had been replaced. A circular well with 18 ft. depth of drinking water in it was discovered during the construction of the subway, and its wall was found to

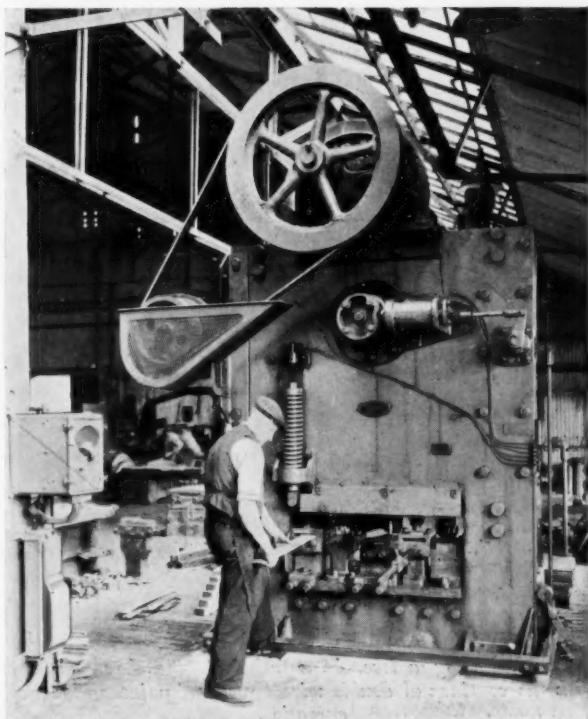
have been raised to the underside of the track and covered with a brick domed roof. This well was demolished to subway floor level and filled in, and a drain was laid from the site to the main subway drain.



Subway from booking hall to up platform, showing stairway to down platform on left

NEW MACHINE TOOLS AT DONCASTER WORKS

Bennie laminated spring press machine in the L.N.E.R. shops



DURING a recent visit to the Doncaster locomotive works of the L.N.E.R. we were enabled by the courtesy of Sir Nigel Gresley, Chief Mechanical Engineer, to inspect the plant installed there, including that used in the operation of spring making and repair. The accompanying illustration shows a laminated spring press manufactured and supplied by James Bennie & Sons Ltd., of Glasgow. This machine is capable of exerting a pressure of 270 tons and of dealing with cold silico manganese spring steel bars up to 6 in. wide by $\frac{3}{4}$ in. thick. The various operations performed by the machine are (1) shearing bars to length; (2) punching holes in the centre of the bars; (3) cutting the ends of the bars to shape; (4) nibbling the bars; and (5) punching oblong slots in the bars. The machine is arranged with five sets of tools covering these various operations, which are necessary to forge the required plate for the general types of springs made or repaired. The arrangement enables the operator to forge single plates fully or process the plates in batches without having to change tools, and the machine is employed full time in preparing spring steel plates for locomotive, carriage, and wagon laminated springs.

The main frame of the press is built of Siemens Martin steel plates and the main slide and all working parts are also of steel. The motion of the main slide is controlled by a clutch operated by a treadle at the front of the machine, as shown in the accompanying illustration. When the treadle is depressed the machine makes one stroke and the slide comes to rest at its highest position, where it remains until the operator requires another stroke. The method of driving the machine is by belt from an electric motor.



Above : Railway troops learning traffic working and signalling with the aid of a model railway equipped with British type signals, block apparatus, and miniature locking frame



Right : Learning the intricacies of the French code of signalling aspects and sign boards with the aid of special models, including a colour-light signal



Left : Operating a lever in a full-size signal box equipped with the continental double wire system of point and signal operation

British Railways and the War—18

RAILWAY NEWS SECTION

PERSONAL

Colonel H. Burchall, an Assistant-Director-General of the British Overseas Airways Corporation, which was formed to acquire the undertakings of Imperial Airways Limited and British Airways Limited, is retiring. Colonel Burchall joined Imperial Airways in 1925 and became first Manager in Egypt for that organisation. Later he returned to England and was subsequently appointed General Manager. He held that position until the merger, when he then became an Assistant-Director-General to the corporation.

According to a Reuters message the personnel of the Tasman Air Commission comprises Sir Harry Batterbee, British High Commissioner in New Zealand, Captain Johnson, Australian Assistant Controller of Aviation, and Mr. J. G. Young, Director of the New Zealand Post & Telegraph Department. The Tasman Air Commission has been appointed to control the services of the newly-formed airways company operating between Australia and New Zealand.

At the annual meeting of the Canadian Pacific Railway Company at Montreal on May 1 (a report of which appears at page 689) the retiring directors, Mr. D. C. Coleman, Mr. John W. Hobbs, Mr. R. S. McLaughlin, Sir Edward Peacock, and Mr. W. N. Tilley were re-elected. At the meeting of directors



Presentation to Mr. A. Howie (retiring Joint Accountant, Southern Railway) of a silver tea service from officers of the company. Mr. E. J. Missenden, General Manager, Southern Railway, is shown making the presentation and congratulating Mr. Howie on his fifty years of railway service

following the annual meeting of shareholders, Sir Edward Beatty was re-elected Chairman and President, and Mr. D. C. Coleman, Vice-President. Sir Edward Beatty, Mr. D. C. Coleman,

Sir Herbert S. Holt, Mr. W. N. Tilley, Mr. Ross H. McMaster, and Mr. Arthur B. Purvis were elected members of the executive committee for the ensuing year.



*Back row : Messrs. G. D. Laurie, D. A. Jenkins, and W. T. S. Cairns (B. & N.W.R.); E. L. Manico (N.W.R.), R. G. Manson (A.-B.R.), S. R. Phansey (D.S.R.), H. B. Gifford (Bk.S.R.), A. Boxall (N.S.R.), T. Christian, V. L. Dean, and B. Lawrence (I.R.C.A.).
Middle row : Messrs. W. H. H. Young (E.I.R.), R. W. F. Butterfield (B.B. & C.I.R.), A. T. Pegge (B.L.R.), F. H. Bibra (Bhav.S.R.), N. R. Green (Morvi R.), Khan Bahadur M. A. Rashid (G.B.S.R.), Rai Saheb G. D. Mehta (J. & D.R.), Messrs. J. M. Pandya (Gondal R.), D. Y. Anderson (J.S.R.), L. F. Jackson (Jp.S.R.), R. S. Vipan (A.-B.R.), H. M. Read (B.D.R.) and G. T. Simpson (J.R.).
Front row, seated : Major G. F. Evans (J.R.), Mr. J. Fearfield (Bk. S.R.), Lt.-Col. E. W. Slaughter (N.S.R.), Messrs. G. C. Laughton (B.B. & C.I.R.), R. E. Marriott (E.I.R.), A. Duncan (B.-N.R.), L. Wilson (G.I.P.R.), J. W. Gordon (President I.R.C.A., J.R.), C. A. Muirhead (S.I.R.), Col. C. F. Carson (N.W.R.), J. D. Westwood (B. & N.W.R.), C. G. W. Cordon (M. & S.M.R.), L. P. Misra (E.B.R.), G. E. Cuffe (A.-B.R.), and Y. K. Ramachandra Rau (M. & S.M.R.).*

INDIAN RAILWAY CONFERENCE ASSOCIATION

Group taken at New Delhi during the session which opened on March 14 last. (For summaries of speeches see page 687)

**Lord Ashfield**

Chairman, London Passenger Transport Board
Member, Railway Executive Committee

**Mr. C. G. Page**

Secretary & Chief Legal Adviser

**Mr. L. C. Hawkins**

Comptroller

**Mr. R. McDonald**

Chief Commercial Manager

**Mr. T. E. Thomas**

General Manager (Operation)

**Mr. V. A. M. Robertson**

Engineer-in-Chief

**Mr. John Cliff**

Executive Officer for Staff & Staff Welfare

London Transport's New Organisation

Lord Ashfield, Chairman of the London Passenger Transport Board, has been appointed a Member of the Railway Executive Committee in succession to Mr. Frank Pick

Consequent upon the retirement of Mr. Frank Pick, whose term of office expires on May 17, the position of Chief Executive Officer to the board has been abolished, and the work of the board has been divided into Departments as detailed opposite. Below are portraits of the six heads of departments

**APPOINTMENT OF LORD ASHFIELD TO
RAILWAY EXECUTIVE COMMITTEE**

The Secretary to the Ministry of Transport has made the following announcement:—

The Minister of Transport has appointed the Rt. Hon. Lord Ashfield, the Chairman of the London Passenger Transport Board, to be a member of the Railway Executive Committee, and has accepted the resignation of Mr. Frank Pick from membership of the committee in view of his approaching retirement from the position of Vice-Chairman of the transport board.

The committee was appointed on September 1, 1939, to be the Minister's agent for the purpose of giving directions under the Emergency (Railway Control) Order and Mr. Pick has been a member of the committee since its appointment.

**LONDON TRANSPORT'S
NEW ORGANISATION**

As already announced, Mr. Frank Pick has decided not to seek re-appointment to the London Passenger Transport Board on the expiry of his present term of office on May 17 next. Mr. Pick joined the Metropolitan District Railway Company in 1906 and rose to the position of Managing Director of the Underground group of companies. On the formation of the board in 1933 he was appointed Vice Chairman and Chief Executive Officer. He has played a leading part in the development of the London passenger transport system in all its phases. His practical knowledge of traffic and his administrative skill in dealing with a large organisation have at all times been placed unstintingly at the service of the board and now that he has decided to retire after thirty-four years of devoted service, the members of the board desire to record their deep appreciation of his great work, and their very sincere regret at the loss of a valued colleague.

Consequent upon the retirement of Mr. Frank Pick, the following changes in organisation have been brought into effect from May 3.

The office of Chief Executive Officer to the board has been abolished and the work of the board has been divided into Departments, as follow:—

(a) *Department of the Secretary & Chief Legal Adviser*

Mr. C. G. Page is the head of this department with the title of Secretary & Chief Legal Adviser. The duties allocated to the department comprise the secretarial, legal, and Parliamentary work, rating, and also the administration and management of the board's estates and surplus properties. Mr. F. C. Buller, the present Estate Agent, is due for retirement, but (as we announced last week) his services will be retained temporarily in connection with rating matters. Mr. T. C. West has been appointed Estate Agent in succession to Mr. Buller and will report to the Secretary and Chief Legal Adviser.

(b) *Department of the Comptroller*

Mr. L. C. Hawkins, Chief Accountant, is to be head of this department with

the title of Comptroller. The duties of the department embrace accounting, financial, and statistical work, the care of the board's funds and securities, and economic and statistical matters in connection with the business of the board. Mr. A. W. Green has been appointed Accountant of the board.

(c) *Department of the Chief Commercial Manager*

Mr. R. McDonald, Chief Solicitor (Common Law), is the head of this department with the title of Chief Commercial Manager. The duties of this department include the purchase and control of all stores and supplies, the public relations and publicity work, commercial advertising, the fixing of fares and charges, the settlement of all claims, and certain legal work of the board.

(d) *Department of the General Manager (Operation)*

Mr. T. E. Thomas is the head of this department with the title of General Manager (Operation), and is responsible for the operation of the whole of the board's services—railways, buses, trams, trolleybuses, and coaches.

(e) *Department of the Engineer-in-Chief*

Mr. V. A. M. Robertson, Chief Engineer (Civil), is the head of this department with the title of Engineer-in-Chief. This department comprises the whole of the engineering departments of the board—civil, mechanical, and electrical. Mr. H. J. Green succeeds Mr. V. A. M. Robertson as Chief Engineer (Civil).

(f) *Department of the Executive Officer for Staff & Staff Welfare*

Mr. John Cliff is the head of this department with the title of Executive Officer for Staff & Staff Welfare. The duties of this department are concerned with staff matters and the welfare work of the board. The Medical Officer is attached to this department.

(g) *Principal Officer (Special Duties)*

Mr. Ivor Fraser, hitherto Chief Commercial Officer, becomes Principal Officer (Special Duties) and is attached to the Chairman's office.

Consequent upon the introduction of the new organisation outlined above, the following further appointments have been made:—

Mr. P. G. James (at present Assistant to the Chief Accountant) and Mr. P. Phillips, Accounts Officers.

Mr. H. E. Osborn, Assistant to the Chief Financial Officer.

Mr. J. B. Burnell, Divisional Superintendent (Central Buses), in succession to Mr. I. Macalpine, resigned.

Mr. F. C. Bentley, Assistant to the Engineer-in-Chief.

Mr. J. W. Carswell (at present Chief Resident Engineer), Second Assistant New Works Engineer.

Mr. A. T. Wilford, Chief Chemist.

Mr. E. R. Drake, Assistant to the Chief Staff Officer.

Mr. B. H. Harbour, Secretary to the Chairman.

Mr. Cecil Grantham Page, M.C., B.A., who has been appointed head of the department of the Secretary &

Chief Legal Adviser, London Transport, was born in 1885, and was educated and took his degree at Cambridge. He was called to the Bar, Inner Temple, in 1910, and practised as a barrister until 1913, when he joined the Underground group of companies as Legal Assistant. He served with the Border Regiment from 1914 to 1919, holding the rank of Major, and was awarded the M.C. Upon his return Mr. Page was made Legal & Parliamentary Officer of the Underground group, and held this position until the formation of the London Passenger Transport Board in 1933, when he was appointed Parliamentary Officer. In 1937 he was made Secretary & Chief Legal Adviser, and now that the work of the board has been divided into departments, Mr. Page, while retaining his title of Secretary & Chief Legal Adviser, has assumed the added responsibilities of supervising Parliamentary work, rating, and also the administration and management of the board's estates and surplus properties.

Mr. Leonard Cecil Hawkins, Chief Accountant, London Transport, who has been made Comptroller and head of the department which deals with accounting, financial, and statistical work, was born in 1897. He served in the last war with the 37th/10th Royal Fusiliers and saw active service in France. In 1917 he joined the audit staff of Messrs. Deloitte, Plender, Griffiths & Co., and qualified, with honours, as an Incorporated Accountant; he was admitted to membership of the society in 1926. In 1929 he entered the service of the Underground group of companies and was appointed Assistant Statistical Officer in 1931. On the formation of the board in 1933 he was made Assistant to the Comptroller & Accountant and in February, 1939, became Chief Accountant.

Mr. Ronald Bruce McDonald, Chief Solicitor (Common Law), London Transport, has been appointed Chief Commercial Manager, and placed in charge of the department managing the purchase and control of stores and supplies, public relations and publicity work, commercial advertising, fixing of fares and charges, and claims settlement. He was articled to the late Lord Brentford, then Mr. William Joynson-Hicks. After his admission as a solicitor in 1908 he remained with Messrs. Joynson-Hicks & Co. and in 1914 became a partner in that firm. He served in France and Italy in the R.A.S.C. (M.T.) from 1915 to 1918, became Captain in 1918, and was mentioned in despatches. He entered the service of London Transport in 1937 as Chief Solicitor (Common Law).

Mr. Theodore Eastaway Thomas, General Manager (Operation), London Transport, is head of the department dealing with the operation of the whole of the board's services, rail, bus, tram, trolleybus, and coach. He was born in 1882, and was educated at Battersea

May 10, 1940

Grammar School. Mr. Thomas entered the drawing office of the London United Tramways Company in 1899, and later became Resident District Engineer. When the London United Tramways Company was absorbed by the Underground group in 1910, he was transferred to publicity and traffic work for the group and in 1913 became Commercial Assistant dealing with fares and routes. In 1917 he was selected to be Development Superintendent of the London County Council Tramways, as a result of competition through a public advertisement. In 1925 he was appointed Traffic Manager and in 1930 he became General Manager. On the formation of the London Passenger Transport Board in 1933 Mr. Thomas was appointed General Manager, Tramways (Central, Southern, & Eastern Areas), and in October of the same year became General Manager of all the London Transport Tramways. In February, 1936, he was appointed General Manager (Road Transport) in control of the operation of the Board's buses, trams, and trolleybuses, and in March, 1939, was made General Manager (Operation) in charge of the operation of the whole of the board's services, including railways. He is President of the Institute of Transport.

Mr. Vernon Alec Murray Robertson, who has been placed in charge of the whole of the engineering departments of London Transport with the title of Engineer-in-Chief, was born in 1890, and was educated at Dover College and the Crystal Palace School of Engineering. He was articled to Mr. Gravell from 1909 to 1912, and worked principally on London & North Western Railway work. In 1912 he became an Assistant to the New Works Engineer of the old South Eastern & Chatham Railway. From 1914 to 1919 he served with the Colours, retiring with the rank of Major in the Royal Engineers, and was awarded the Military Cross and Bar in France. In 1919 he joined the staff of the old Great Eastern Railway and occupied the positions of Assistant Divisional Engineer and Divisional Engineer of the Southern Division. He continued to serve in a similar capacity with the London & North Eastern Railway. In 1928 he joined the Underground railways as Civil Engineer, and on the formation of the London Passenger Transport Board in 1933, became Civil Engineer to the board. In 1938 he was appointed Chief Engineer (Civil). Mr. Robertson is a member of the council of the Institution of Civil Engineers, a member of the Institution of Mechanical Engineers, a member of the Institute of Transport, a fellow of the Permanent Way Institution, and a fellow of the Society of Engineers.

Mr. John Cliff, under the new organisation of London Transport, has become Executive Officer for Staff & Staff Welfare, and head of the department concerned with these matters. He was associated for a number of years with

the trade union side of transport. In 1919, Mr. Cliff was appointed Joint Secretary of the National Joint Industrial Council of the Tramways Industry, and in 1924 became Assistant General Secretary of the Transport & General Workers' Union. In 1933, upon the formation of London Transport, he was appointed a part-time member of the board for a term of five years, which appointment was renewed in May, 1938. During this period he undertook various duties associated with staff matters and the conditions of service of the various staffs transferred to the board, and in 1939 was made head of the staff department. Mr. Cliff is an Alderman and a member of the London County Council and is also a member of the Council's Education and Public Control Committees. He was a member of the Royal Commission on Labour in India, 1929, and is a member of the London Regional Advisory Council for Juvenile Employment. Mr. Cliff is an Associate of the Institute of Transport.

Mr. R. Falshaw Morkill, whose appointment as Joint Signal Engineer of the London Passenger Transport Board, was announced in our issue of April 26, was born in Canada. He served in the South African Boer war, Zululand rebellion, and the war of 1914-19. He gained electrical experience in Montreal, British Columbia, and Newfoundland and was also engaged on electrical and signalling work in South Africa after the Boer war, and in the United States, Canada, and France. He joined the Metropolitan Railway as Signal Engineer in 1925, and on the formation of the board in 1933 was appointed Assistant Signal Engineer (Maintenance); he was made an officer of the board in 1936. Mr. Morkill is a member of the council of the Institution of Railway Signal Engineers, a fellow of the Permanent Way Institution, and has for many years been a member of the American Railway Association.

Mr. Chester T. Dike, Vice-President & Chief Engineer, Chicago & North Western Railroad, relinquished his duties as Chief Engineer on April 1, but is retaining his position as Vice-President. Mr. Dike has been Chief Engineer since November, 1930, and Vice-President of the North Western and of the Chicago, St. Paul, Minneapolis & Omaha Railroads since 1934.

Mr. G. F. Sundén has been appointed Manager of the Swedish Travel Bureau in London in place of Mr. V. Wallborg, who has returned to Sweden.

Dr. Manuel R. Alvarado, who has been Argentine Minister of Public Works since 1932, has resigned from that position for political reasons, and has been succeeded by Dr. Luis Alberto Barberis. The new Minister was born in 1894 at Buenos Aires, where he graduated as a Doctor of Jurisprudence. Among the public posts which he has occupied are those of Secretary to the

Minister of Public Works from 1922-28, Secretary and Legal Adviser to the State Railways, Criminal Judge, Member of the Deliberative Council of the City of Buenos Aires, Judge of Instruction till 1938, and Secretary to the President of the Argentine Republic since the last-named year.

From Supplement to *The London Gazette*, May 7, 1940:—Territorial Army, Royal Engineers, Lt.-Col. V. A. M. Robertson, M.C., M.Inst.C.E., M.I.Mech.E. (31427) to be Col. 8th May, 1940. Maj. R. P. Biddle (2746) to be Lt.-Col. 8th May, 1940.

We regret to record the death on April 20, at Avda, Canning 2904, Buenos Aires, in his 75th year, of Mr. Francis Frederick Bennett, formerly Chief Mechanical Engineer of the Buenos Ayres & Pacific Railway. He was appointed in 1918 and retired at the end of 1927 on superannuation. At the time of his retirement he had had 38 years of railway service in Argentina, beginning work in that country in 1890 as Assistant to the Locomotive Superintendent of the Buenos Ayres Great Southern Railway.

We regret to record the death on May 6 of Mr. Alexander McCallum at the age of 79. Mr. McCallum was born in Helensburgh and received his early training in journalism in the Greenock office of the *Glasgow Herald*. He specialised in Parliamentary work for that journal, and was a member of the Press Gallery of the House of Commons from 1892 until about ten years ago, when he retired. For many years, up to the time of his death, he was responsible for reporting Parliamentary proceedings for THE RAILWAY GAZETTE.

Mr. P. A. Harverson, whose death we recorded in our issue of February 9, has left estate valued at £9,963 (net personally £6,296). Mr. Harverson, at the time of his death, was Assistant Passenger Manager, North-Eastern Area, L.N.E.R.

INDIAN CENTRAL STANDARDS OFFICE (RAILWAY BOARD)

Mr. J. M. D. Wrench, C.I.E., Chief Controller of Standardisation, has been granted leave preparatory to retirement.

Mr. E. Ingoldby, Director of Mechanical Engineering, Railway Board, is to succeed Mr. Wrench eventually, but has meanwhile been granted six months' leave.

Mr. G. A. R. Trimming, Chief Mechanical Engineer, East Indian Railway, has been appointed to officiate as Chief Controller of Standards during Mr. Ingoldby's absence.

Mr. J. Humphries, Deputy Chief Controller of Standardisation, has been appointed to officiate as Director of Mechanical Engineering, Railway Board.

Mr. W. Hood has been appointed Chief Engineer, Great Indian Peninsula Railway.

TRANSPORT SERVICES AND THE WAR—37

Whitsuntide traffic arrangements—Channel Islands transport control—A journey on a leave train—Priority—Organisation of French transport in wartime—Paris Metro air raid shelters—Norway—Goods transport in Germany

The Railway Executive Committee has announced that the British main-line railways have made arrangements to provide for extra passenger traffics during the forthcoming Whitsuntide holidays, and that some additional train services will be introduced, but limited by the necessary movements in connection with the war. It will not be possible this Whitsun to run the usual programme of extra trains. Monthly return and weekend tickets will be issued where these are now in operation and, in addition, cheap day bookings at approximately the ordinary single fare for the return journey (at present issued on early closing and regular cheap ticket days) will be available in many cases on Saturday, Sunday, Monday, and Tuesday, May 11, 12, 13, and 14. Similar day ticket facilities have also been arranged where circumstances permit for transfer from cities and towns to seaside and country resorts where the double journeys can be completed in a day. In their own interests, passengers are asked to obtain their tickets in advance, and to travel light.

Control Coupons for Channel Islands and St. Malo

Owing to the war and Government demands on the Southern Railway fleet of steamers, it has been found necessary to introduce a system for the control of passengers travelling to and from the Channel Islands and St. Malo, according to the carrying capacity of the steamers available. The only sea route is *via* Southampton. From Monday last, May 6, therefore, all passengers travelling to the Channel Islands must be in possession of a "control coupon," the issue of which is limited according to the steamer accommodation available. These control coupons are obtainable at the Continental enquiry office, Victoria station, also at Southampton, for passengers booking from that port. Passengers booking to St. Malo, and beyond, also require control coupons, authorising their embarkation on the Channel Islands steamer, beginning with the Southampton—Jersey—St. Malo service on Friday, May 10, and lasting until Friday, July 5, inclusive. Coupons are issued only to those who buy tickets and it is necessary for passengers to give at least 14 days' notice.

For the return journey, passengers must obtain an embarkation ticket, which is dated to show the sailing date on which the passenger intends to travel. Application for these tickets must be made to the railway offices, 9, Bond Street, St. Helier, Jersey, or the Jetty, St. Peter Port, Guernsey, as soon as possible after arrival. Passengers booking return tickets *from* the Channel Islands or St. Malo to England require an embarkation ticket for their forward journey, which is obtainable at the railway offices in Jersey or Guernsey, and a control coupon for the return journey from England. These are obtainable from the Continental enquiry office at Victoria station or the Docks & Marine Manager's Office at Southampton. At least 14 days' notice must be given.

In no case are passengers now able to travel on Channel Islands steamers without the necessary control coupons or embarkation tickets.

Leave Trains

Tides, naval occasions, and several other factors preclude the use of fixed times and places in connection with the leave trains for B.E.F. troops, but the routine of their running has been brought to a fine art, and a glimpse of the precision and expedition of such movements has recently been given in the Southern Railway quarterly review, *Over the Points*. In the instance described, the journey is from Dover to Victoria station, London, and the following extracts give a general idea of the trip as seen by a passenger:—

"At that moment the leave ships were closing on the

coast. . . . Part of the White Walls of England had tried to fling itself into the sea, but merely succeeded in blocking the railway line. . . . The temporary closure of this part of the line may have put some people to inconvenience, but it did not cause a hitch in the operation of the leave trains. Only a few of the thousands of soldiers passing daily from coast to London knew anything about it. It did not interfere with their quick passage through the port, nor did it impede their trains. Had it done so the whole world would have heard of it, for minutes are cherished in the all too short but precious days from the Front. As the grey ships come alongside, the day's lucky section of the B.E.F. crowd eagerly to the side. The gangway is run into position, and then the khaki stream begins. On this particular occasion it did so at 11.47. The men pass into the Customs House, where Southern Railway staff, Customs officials, and Army officers are mingled in little groups, and the winding channel for the passage of men is marked by trestles and forms. It was an un hurried, almost leisurely procession. No sergeant-major's commands tore the air, but repeated and friendly requests droned at the doorway: 'Have your Part Three's ready, please. Have your Part Three's ready.' The combined leave pass and railway ticket booklets were probably opened at the right place before disembarkation; the men certainly did not have to fumble when they reached the Southern Railway desk. Here Part III, which gives particulars of the soldier's journey, is torn out and retained. Part I is left with the Unit overseas, and Part II is taken at the port of embarkation. The counterfoil given up on first landing is not a railway pass, but it helps transport arrangements at the London end. When the last man has passed through the barriers and satisfied the Customs that his pack is not overloaded with dutiable goods, the destinations of all men travelling that day are grouped and the London Passenger Transport Board is informed that there will be so many men for Paddington, so many for Euston, and so many for King's Cross; other railways are told the numbers they may expect that day. This information is passed on before the first leave train is halfway to London. . . . The exact number for each train is checked through the platform barrier as though they were going to the Arsenal Stadium on a Saturday afternoon. About 350 men file into the waiting carriages (nearly 300 if the train has Pullman coaches), six to a compartment, no more and no less. No one is without elbow room, and no one in the train is without a seat. They are advised, *advised*, mark you, to take off their packs and put them, together with their rifles, on the racks.

"As the last little group reach the front coach, the guard is standing alert, whistle to mouth, at the other end of the train. The last door slams and Number 1 train pulls out bang on the stroke of noon, her scheduled time, after taking a matter of thirteen minutes to receive her load from ship gangway to train corridor. With L.1. boldly displayed on the headboard, the engine will not stop work until she is against the buffers at Victoria. About eight minutes afterwards L.2. follows, and so on until five or six equally loaded trains are thundering up the line to London. On L.4. on the day in question a solitary civilian was privileged to travel to see how the two hours between port and metropolis was spent. An affable R.T.O. especially delegated for welfare work acted as conductor. . . . Before a mile of track was covered the work of the train staff began. The R.T.O.'s assistant passed down the corridor, stopping at every compartment to advise men of train connection for distant parts of their journeys. Officers with French money were passing to a temporary Exchange where amounts up to £500 were accepted. Everyone needs a little money when

travelling, the rank and file no less than officers, and the Army authorities of today realise that a free travelling voucher is but a bare necessity. So compartment after compartment emptied in turn and made for one of the pay offices in the train where every man received 50s. irrespective of the state of his finances way back at his unit. If he has a surplus of pay to draw, and most of them have, it is sent on to him at his home. The Southern Ticket Collector, too, moves through the train examining Part IV of the green booklets, collecting them from those men whose journeys end in London. After payment the supply cars begin to fill, and tea, beer, sausage rolls, ham sandwiches, and cakes start disappearing at an amazing rate. It is interesting to learn that the home-ward-bound soldier finds his greatest solace in cups of tea. . . . When the train glided into Victoria after a non-stop run dead on time, the buses were waiting in a line alongside the platform. In a few minutes three hundred packed and armed men had disappeared and that little bit of the Southern Railway job was over."

It may be added that all leave from France passed over what are now Southern Railway lines during 1914-1919 war; some seven million men were carried. All leave from France during the present war passes over some part of the Southern Railway.

Priorities in Great Britain

One important lesson taught by the war of 1914-1919 was the need for an efficient priority organisation during large scale hostilities. It was recognised during the days of uneasy peace preceding the present war that it was essential to have in being a means whereby, if it should prove necessary, prompt and authoritative decisions might be taken as to which claims, even among Government requirements, should take precedence whenever competing demands on resources arose. The Government Priority Organisation was therefore set up. The head of it is a Cabinet Ministerial Priority Committee which lays down general priority directions and acts as the final appeal tribunal on decisions of the Priority Sub-Committees, of which there are six. These deal with (1) man-power, (2) production, (3) materials, (4) labour, (5) transport, (6) works and building. On these sub-committees all the interested Government Departments are represented so that the special needs of each may be advocated. The Departments vitally interested in priority questions include the Admiralty, War Office, Air Ministry, Ministry of Supply, Ministry of Home Security, and the Board of Trade which represents the claims of home and export trade. Usually the chairmen of the sub-committees are the Parliamentary Secretaries of the Ministries most closely concerned. Thus the Chairman of the Transport Sub-Committee is Mr. Robert Bernays, Parliamentary Secretary of the Ministry of Transport.

The members of this committee are in close touch with the various forms of transport; they are the heads of the divisions in the Ministry of Transport wartime organisation concerned with railways, road transport, ports, and canals. Effect is given to the decisions of the committee through these officers, who maintain contact with the Railway Executive Committee, the Regional Transport Commissioners, the Port Emergency Committees, and canal undertakings. There is no division of function between the committee and the Railway Executive Committee. The latter is the agent of the Minister and gives effect to the decisions of the Priority Committee in so far as they affect railway working.



Reproduction of a coloured picture entitled "Farewell!" which was issued towards the end of last century, and obtained considerable popularity. The scene is, of course, No. 3 platform of the old Waterloo station, L.S.W.R. The crow's nest signal box will be noticed

There is also a Central Priority Department, without the consent of which no priority certificate may be issued, and which is also responsible for the allocation of manufacturing capacity between departments. So far no priority certificates have been issued. When new productive capacity has been required it has been possible to allocate capacity discovered as a result of pre-war surveys carried out by the Director of Industrial Planning, and similar authorities. These surveys are continuing and so long as capacity remains ahead of demands there will be no need for priority certificates. The allocation of raw materials has been directed in their flow by the various Controllers advised by the Raw Materials Department of the Ministry of Supply.

Organisation of French Transport in Wartime

In the general scheme for the economic mobilisation of France, a transport co-ordination plan had been prepared before war broke out, the object of which was to ensure equilibrium during the changeover. During the first stage of hostilities, which was a period of mobilisation and concentration, all forms of transport and communication were under the sole authority of the Ministry for War. Granting special authorisation for particularly urgent commercial transport was then a matter for the 4th Bureau of the Army General Staff, and the General Direction of Transport of the Ministry of Public Works was engaged during this period solely in confirming or otherwise the authorisation of such transport. When the initial period of mobilisation and concentration was ended, the control of transport was handed over to the Ministry of Public Works.

The General Director of Transport of this Ministry is assisted by a military board, comprising a general of the Army, a general of the Air Force, and an admiral delegated by the Marine Department. He has under his control directors responsible respectively for transport by rail, road, navigable waterways, seaports (which is connected with the Ministry of the Mercantile Marine), and air. Each of these directors is himself assisted by a representative of the Ministry for War and of the Ministry of Marine, which ensures liaison with the General Staff.

All transport is divided into three categories: military transport, necessary for the direct requirements of the army; transport of national interest; and commercial transport. Military transport, performed for the direct requirements of

the land, the sea, and the air forces, in accordance with the directions of the three respective Ministries, as well as that of the Colonies, naturally has absolute priority. After military transport ranks transport of national interest; that is to say, movement vital within the plan of national defence, either for the prosecution of the war, or for the general requirements of the country and of the civil population. In principle, no form of transport may be classed as national transport, and enjoy the priority that designation conveys, unless the Government Department responsible for the traffic carried has declared it to be so. It is not sufficient to affirm that all transport destined to intensify the economic activity of the country is necessarily of national interest, and a classification based on the relative importance of different kinds of consignments has been prepared. Transport concerned with exports is classified by right as of national interest. On the other hand, certain commercial transport may be transformed into transport of national interest, according to circumstances; for example, that required for the general provisioning of certain regions.

Taking into account the priority of transport of national interest, the public authorities have established programmes for the provision of transport. The effect of this is that consignors claiming the right of priority address their requests, through the economic regions, or the corporate or professional associations to which they belong, to the Ministries responsible or interested in the category of merchandise under consideration. The responsible Ministries group these requests, which must indicate the quantity and destination of the consignment, and route. They are then transmitted, with a certificate of their right of preference over ordinary commercial transport, to the General Direction of Transport in the Ministry of Public Works, which must distribute the traffic of national interest between the different means of transport. Certain specially urgent traffic, for which the request has not been presented within the regulation period, may exceptionally be the subject of a direct authorisation of the Ministry charged with the issue of the necessary certificates. The extension of the field of application of these principles depends naturally on the capacity of transport available.

In practice, the General Direction of Transport has found it desirable to decentralise operations and simplify formalities, in order to relieve users, in every possible way, of the complications in the building up of the transport programmes. Moreover, these programmes have been maintained solely for certain heavy materials, or certain products, which constitute, from the point of view of volume or tonnage, the most important element in the effort which is demanded from the various means of transport. They include coal, minerals, metallurgical products, fodder, and timber. In present circumstances the greater part of the traffic may be presented without certificates classifying them as of national interest. This simplifies the task of the consignors and of the General Direction of Transport.

A function of the General Direction of Transport is to instruct transport undertakings as to the conditions of the traffic to be carried, whether by road, by water, or by air. It is useful, in these circumstances, to obtain from the different Ministerial Departments, as well as the Mines Section in the Ministry of Public Works and the Direction of Agriculture in the Ministry of Agriculture, forecasts of the tonnages to be carried during the coming months. This permits the undertakings carrying out the work to have useful information, so that they may be able to calculate the calls on their resources and to report if those resources are sufficient for the expected needs, or, if not, to take the necessary measures to obtain them.

The liaison of the General Direction of Transport of the Ministry of Public Works with the Direction of Maritime Transport at the Ministry of the Mercantile Marine is one of the heaviest tasks. It is necessary to avoid any congestion at ports that might occur by reason of massed arrivals, and therefore to distribute traffic between the ports, taking into account the destinations of the goods and the relative security of the seas which the ports serve. By limiting to the minimum the declaration of traffic as of national interest, it has been possible to leave to the present transport organisations the maximum flexibility.

Greater Freedom to Road Transport in France

Greater freedom and flexibility to motor transport by road to meet war conditions in France has been found necessary. Road and rail co-ordination limitations will be modified under the terms of a Decree, drawn up by a committee appointed by M. de Monzie, Minister of Public Works. This decree has already been signed and will come into force as soon as it has been published in the *Journal Officiel*. While the details are not yet known, it is understood that the decree will comprise two parts, one regulating public and the other private transport of goods. Long-distance transport, which was reserved for the railways, will be allotted to road carriers in urgent cases. In order to keep factories supplied, rapid transport of machinery and spare parts may be undertaken by motor lorries and vans. They may also carry perishable and fragile goods. Further, to avoid returning empty, they may take any available public as well as private freight. Greater use will be made of motor lorries in cross-country traffic, where rail services are deficient. Furniture removing vans may circulate freely throughout the country. The zones of short-distance road traffic are to be extended to more than 200 km. (125 miles). Carriers must give priority to transport of national importance and they must be members of some professional group.

French Waterborne Traffic

Co-ordination of rail and waterborne traffic was abrogated when the war began. Waterborne traffic then came under military control. It is estimated that the waterways carry about one-fourth as much as the slow goods traffic of the railways. Freight rates are fixed by the Office National de la Navigation. The old rates were in some cases increased, but the rise was limited to 10 per cent. In recent years, iron has been used extensively instead of wood for building large barges. During the last war, some barges were built of concrete, but they did not prove a success. Mechanical traction is now employed on almost all canals. Numerous motor-driven barges have supplemented traction by steam tugs on the rivers.

Co-ordination placed restrictions on the building of new barges, and a new boat could be ordered only if it were to replace an old vessel of equivalent tonnage. This led to the closing of many building yards and now the problem of providing new boats presents difficulties. To remedy the deficiency a government credit of 200 million francs has been allotted to builders. Equally difficult is the question of finding qualified bargemen, now that so many of the old hands have been mobilised. Workmen are also needed for repairs and the upkeep of tractors. If the waterways could now take their full share of slow goods traffic, this would go far to relieve the railways of the growing burden of goods traffic and facilitate the transport of supplies for the army as well as civilians.

French Rail Transport Well Maintained

The French National Railways (S.N.C.F.) are showing great efficiency in maintaining transport of all essential supplies. For instance, the needs of farmers are not neglected. Recently, within four weeks, the S.N.C.F. loaded 47,000 wagons of fertiliser. This amount is considerably more than in the same period of 1938 and is at a higher rate than last year. Progress in rolling-stock equipment is also being well maintained. The S.N.C.F. will shortly place in service in the Nord Region the eight new 4-6-4 streamlined locomotives intended to haul heavy *rapides* on lines with moderate gradients.

North African Coal Supplies

Development of the coal and the mineral resources of North Africa has assumed increasing importance in consequence of the war. General Noguès, who is commanding the military forces in North Africa, decided last autumn in agreement with the Minister of Public Works and the Minister of Finance to begin building a railway in Morocco from Bou Arfa to Kenadza, on the confines of the Sahara. At Kenadza there is a rich field of soft coal. The new line, now almost completed, is 110 km. (68 miles) long, and forms an extension of the existing line from Oujdja in Eastern Morocco through Djerrada, where there are anthracite mines, to Abou Arfa, where deposits

of manganese ore have been worked for many years. The Djerrada anthracite field, which is extensive, is situated less than 40 miles from Oudjda. The minerals are exported from the Mediterranean port of Nemours. The coal is expected to make French North Africa practically independent of foreign coal supplies. The line through Bou Arfa to Kenadza is viewed by some as a possible first section of a Transsaharan Railway.

Paris Metro Air Raid Shelters

In addition to completing a number of air raid shelters, to which air is supplied through carbon filters and maintained at a pressure sufficient to exclude noxious gases, the Paris Metro is making preparations for providing additional shelters adjacent to stations, at a sufficient depth to ensure security during bombing raids. Many of the Metro stations are too near the surface to be safe shelters and notices have been posted warning the public that they will not be admitted during air raids, but at deeper stations steel frames to receive airtight doors have been placed in position in the corridors and these will form a series of chambers in which people may seek refuge in the event of a bombing raid. It is estimated that the Metro will provide shelter for about 300,000.

Norway

The serious difficulties with which the Allied Forces in central Norway were faced have already been indicated in these columns by our accounts of the vital strategic importance of the railways based on Dombås and Stören, and the record we published last week of the progress of the German forces from Oslo northward up the Gudbrands and Öster valleys made clear the risk to which were subject the essential lines of communication with the Allied coastal bases. Reports that the Germans had captured both Dombås and Stören were unconfirmed when we closed for press last week, but on Thursday afternoon (May 2) Mr. Chamberlain announced in the House of Commons that all the Allied Forces south of Trondheim had been withdrawn in accordance with a decision taken the previous week when it became evident that, owing to local German air superiority, it would be impossible to land the artillery and tanks needed by the Allied Forces to withstand the heavy German drives. Moreover, it was announced officially by the War Office on May 3 that, in accordance with the general plan of withdrawal from the immediate neighbourhood of Trondheim, Allied troops were re-embarked at Namsos the previous night. It was added that the withdrawal and re-embarkation was carried out with complete success and without loss.

In the course of his speech Mr. Chamberlain stated that our first military forces sailed direct to the Narvik area and arrived there on April 15. Despite the hazard of the operation, it was decided that our objectives in Norway could best be served by an attempt to capture Trondheim. Lightly-equipped troops were sent to Namsos (where Naval Forces had landed on April 14) and reached there on April 16 to 18. A few days later the French landed. South of Trondheim, a British naval party landed at Andalsnes on April 17, and troops on April 18 and 19. These advanced to the important railway junction at Dombås, and a contingent proceeded southward and at Lillehammer joined the Norwegians who were opposing the main German advance from the south. Mr. Chamberlain stressed the desirability of refraining from drawing hasty conclusions; said that there was no intention of "allowing Norway to become merely a sideshow"; and indicated that our withdrawal was made to avoid a dangerous dispersal of our forces which was opposed to "the long-term strategy which will win the war."

The German High Command announced the occupation of Andalsnes at 3 p.m. on May 2, and added that the whole of the railway line between Dombås and Ulsberg was in German hands and in good condition. It is by no means certain, however, that the Germans possess workable lines of communication between Oslo and Trondheim. Especially in the Öster valley, the Norwegians, assisted by Swedish volunteers, seem to have been successful in cutting the railway and road at Os and other places along the valley.

The German High Command announcement of May 2 also said that German troops working eastwards from Bergen and

those going westward from the north of Oslo, had met on the Oslo-Bergen Railway.

It was reported from Stockholm in a message dated April 30 that the Oslo section of the Norwegian State Railways, which is under German control, is organising extensive repairs to the damaged railways around Oslo, and the telephone lines running alongside them. In addition to all available railway men, many unemployed (of which there were 10,700 at Oslo just before the German invasion) have been drafted to the work.

Reconstruction of the railways in central and southern Norway is progressing rapidly, and various lines have already been put into operation again for the transport of troops and supplies, according to a statement issued by the Official German News Agency on May 3. The agency added that other lines are being reconstructed by German sappers, and are expected to be in service shortly. Last week a traveller from Norway to Sweden said that the train from Oslo to Gothenburg took 18 hours.

The White Paper issued by the Norwegian Government on April 16 on how the Germans invaded their country states that the German demands were presented by Dr. Brauer, the German Minister, to Professor Koht, the Norwegian Foreign Minister, at 5 a.m. on April 9—some hours after the German invasion began. The so-called demands or requests, 12 in number, are thus shown to have been in fact the terms of a Norwegian surrender. One of the demands was that all forms of communication, such as railways and telephones, should be placed under German control. According to *The Times*, the proclamation issued by General von Falkenhorst, the German Commander-in-Chief in Norway, four days after the invasion, included an order that "anyone found guilty of the sabotage of the means of transport or communication or of public undertakings will be shot."

Goods Transport in Germany

One of the wartime difficulties with which the German railways have to contend is the very great increase in length of haul consequent upon the closure of the North Sea ports, and the need to import goods overland from southern and eastern Europe to industrial districts in the Rhine and Ruhr areas. Stocks of locomotives and wagons which were adequate for the peacetime transport structure have proved inadequate for wartime needs in the changed conditions. German business men were advised that all goods must reach their destination before March 15, as after that date the Reichsbahn would no longer be able to transport private goods excepting under permit. This gave rise to the many rumours that some important offensive had been planned for the "Ides of March."

With the development of her offensives and the breaking up of ice barriers by the spring, Germany is likely to make considerable use of her inland waterways, which have been greatly extended and improved, and thus relieve the pressure of freight traffic on the railways. Germany is particularly well supplied with navigable rivers, of which the principal are the Rhine, Elbe, Oder, and Weser, and for many years these have been connected up with numerous canals. Even before the last war the inland waterways, natural and artificial, carried a volume of traffic amounting to rather more than one-third that handled by the railways, which was a very high proportion. After the Armistice all canals were put under the control of one department and enormous extensions were planned. These had made considerable progress before the beginning of the Nazi regime, and the schemes were afterwards extended still further. The ultimate object is to connect up the whole of Germany's river systems by canals, the majority of which are capable of taking vessels up to 1,000 tons dw. Many can take larger craft. The Mittelland Canal, which was opened in 1938, is one which can do so, excepting only the connection to the Danube—a 200-mile canal linking the Oder with the Danube.

Internal Air Lines

Railway Air Services Limited resumed working its Liverpool—Belfast and Glasgow—Belfast services on Monday last, May 6; there is one service each way every weekday. These are the first services of this company to be operated since the outbreak of the war.

The 41st Session, Indian Railway Conference Association

Summaries of the speeches of the President and of the Member for Communications, both dealing largely with the future of Indian railways under the new constitution

The 41st session of the Indian Railway Conference Association opened at New Delhi on March 14, 1940, under the presidency of Mr. J. W. Gordon, C.I.E., O.B.E., Manager of the Jodhpur (Indian Native State) Railway. The Hon. Sir Andrew Clow, C.S.I., C.I.E., I.C.S., Member for Communications, and other distinguished guests were present.

In his presidential address, Mr. Gordon began by reminding the conference that India was on the threshold of vast political changes, which he summarised in the one word "federation." In this connection, he dwelt at some length on the subject of the Federal Railway Authority, its statutory constitution, position, and functions, as laid down in the Government of India Act, 1935. The more important of these questions were duly discussed in THE RAILWAY GAZETTE when the Imperial Parliament dealt with the report presented by the special committee appointed to frame the new railway constitution for India, and the report and subsequent parliamentary amendments were reviewed on page 632 in our issue of April 5, 1935, and on pages 991 and 1137 in the issues of May 17 and June 7 of that year. Mr. Gordon's comments on the subject are, however, of interest. He expressed himself as satisfied that the safeguards provided would prevent modifications of the rules and regulations which might make appointments in the administrative branch of the statutory authority a question of politics rather than of ability and experience. The success of the changes, he emphasised, depended largely on the will to make them successful, and he welcomed them as tending to keep the railways free from political interference.

The President also underlined the extreme importance of the future railway tribunal, but observed that there was no mention in the Act of the Indian Railway Conference Association. He visualised, however, a very definite and happy relationship between the authority and the I.R.C.A.—which could but tend towards efficiency—despite the fact that the functions of the executive branch of the authority and those of the association might overlap. As, however, the executive branch would be a body closely resembling the existing Railway Board, there was no reason why harmonious relations should not continue.

Mr. Gordon then turned to subjects considered by the I.R.C.A. during the past year, and mentioned (a) the necessity for the appointment of the whole-time Wagon Turn-round Committee, and (b) the steady increase in ticketless travel; rigorous imprisonment must

be substituted for simple imprisonment before improvement in (b) could be expected, declared the speaker.

The Communications Member's Speech

Sir Andrew Clow also referred to the system of railway control embodied in the Government of India Act. He observed that not least among the advantages which might be expected to result from the establishment of a special administrative authority would be the gradual evolution of a system which would combine the advantages of socialism and capitalism in respect of railways. The State was the owner of at least nine-tenths of the railway system and managed the greater part of this itself, so that in practice State socialism obtained in India on a scale attempted in no other country where individual liberty was preserved. Public opinion was still on the whole in favour of an extension of State management, although Sir Andrew did not feel confident that it would have taken that view had the companies working the big railways been Indian.

Referring to the many obvious advantages of State control, Sir Andrew said that the most important was the fact that it insured a policy securing the interests of the community as a whole. But he voiced the oft-repeated warning against the obvious dangers in any State system that the administration would almost inevitably be injured by political influences.

Independent Railway Inspectorate

Sir Andrew announced the decision of the Government to re-organise the

Railway Inspectorate dealing with safety, and to transfer it from the Railway Board to the Communications Department of the Government of India. Thus the authority responsible for safety would in future be independent of the Railway Board. The inspectorate, which would continue to be drawn from engineers with adequate railway experience, would be invested with greater independence, but the Government contemplated that those entering the inspectorate cadre would do so permanently and would not be liable to revert to railway administration.*

In conclusion, the Railway Member mentioned the anxiety of railway officers to do their bit of war work. Some had already left to take up active service in Europe. He pointed out, however, that for the majority of railway men, the path of duty lay at present in pursuing the task here with redoubled energy. The contribution which India could make was in a large measure conditioned by the smooth working of her railway system, and those rendering loyal service should be able to feel that they were in some measure contributing to the ultimate cause.

Mr. Gordon in a later speech referred to the retirement of Mr. B. Lawrence, the General Secretary of the association and Director of Wagon Interchange, who has just been succeeded by Mr. V. L. Dean of the North Western Railway. His eulogies and good wishes were duly responded to by Mr. Lawrence. Messrs. Cuffe and Fearfield proposed and seconded a vote of thanks to Mr. Gordon, the retiring president. His successor is Mr. C. A. Muirhead, Agent & General Manager of the South India Railway, as announced on page 193 in our issue of February 9 last. A group photograph taken during the session of the conference is reproduced on page 679.

* This matter is the subject of an editorial note on page 662.

Centenary of Brighton Station and the Shoreham Branch

Brighton station was opened exactly one hundred years ago, at the time the short section of line between Brighton and Shoreham was brought into service, and more than a year before the main line between London and Brighton was completed. As the station has its own peculiar claims to local interest, the Southern Railway has arranged an exhibition in the North Drawing Room at Brighton Pavilion (by permission of the Corporation of Brighton) which was opened to the public on Wednesday, and is to last until May 15, thus covering the Whitsun holidays.

A tasteful little 12-page catalogue has been produced, and acts both as a useful guide to the exhibits and also as an interesting memento of the occasion. There are on view 46 prints, photographs, and other exhibits relating to Brighton station and the lines

in the immediate neighbourhood; 17 press reports, cuttings, and so forth concerning the opening of the Brighton-Shoreham branch on May 11, 1840, and the early train services thereon; and various small relics that can be shown in cases, such as a truncheon made for the London & Brighton Railway in 1837, and the Shoreham section of George Stephenson's plan for the London & Brighton Railway, of the same year.

Many Southern Railway officers, and private individuals, have lent exhibits from their private collections.

ENGLISH ELECTRIC CO. LTD.—To mark the 21st anniversary of the English Electric Co. Ltd., members of the staff at the Stafford works, on April 29, presented a service of silver plate to Mr. G. H. Nelson, the Chairman and Managing Director of the company.

Staff and Labour Matters

Railway Shopmen

The National Union of Railwaymen has submitted to the Railway Executive Committee an application for an increase of 5s. a week in the wages of railway shopmen. As the result of the applications for an increase of 10s. a week which the trade unions put forward at the close of last year, railway shopmen received a war advance of 5s. a week from January 1, 1940, and the application now submitted by the National Union of Railwaymen represents the balance of the previous application.

Although the National Union of Railwaymen is no longer a party to the negotiating machinery for railway shopmen, the previous application was dealt with by the National Railway Shopmen's Council, but on that occasion the other trade unions catering for railway shopmen had also submitted an application for an increase of 10s. a week. Now, it is understood, the employees' side of the National Railway Shopmen's Council has submitted an application for a further increase of 10s. a week in the wages of railway shopmen, and this application will be considered by the full council. The cost to the railway companies of the 5s. increase, which was paid from January 1, amounted to more than £1 millions a year.

Questions in Parliament

Railway Interests in Internal Air Lines

Mr. W. R. D. Perkins (Stroud—C.), on April 30, asked the Secretary of State for Air how many of the internal airlines now operating were entirely free from any influence of the railway companies.

Captain Harold Balfour (Under-Secretary of State for Air), in a written reply, stated: I understand that of the five companies now operating internal air services four have some connection with railway interests.

Railway Hotel Charges

Commander Sir Archibald Southby (Epsom—C.), on May 1, asked the First Lord of the Admiralty whether he was aware that officers who, by reason of their duties, were compelled to find accommodation in L.M.S.R. hotels were being charged £5 5s. a week inclusive, but that, if their duties took them away for a day or two, they were not allowed any rebate for unconsumed meals; if he was aware that in the L.M.S.R. hotels a service charge had been arbitrarily added to all bills commencing on April 1, 1940, and varying from 10 to 50 per cent.; if the imposition of such a service charge was in accordance with regulations; and whether he would take steps to prevent officers and men who had performed to use L.M.S.R. hotels being charged

more than the 10 per cent. universally accepted as the proper sum in lieu of tips for services rendered.

Sir Victor Warrender (Financial Secretary to the Admiralty): I am informed that the weekly rates quoted by my hon. and gallant friend are less than those charged to members of the public living at these hotels *en pension*. When naval officers have for a period been compelled to stay, on account of their duties, at a hotel where the charge is £5 5s. a week, subsistence allowance has been paid to them. I am also informed that a service charge of 2s. on every 20s. is made on the *en pension* rates.

Sir A. Southby: Is the Financial Secretary aware that since this Question was put on the Order Paper Naval Officers living in the Exchange Hotel, Liverpool, have been given notice to give up their rooms, although the hotel is only half full? Will he take steps to prevent the exploitation of these officers who are engaged on arduous duties? In view of what he said in the last part of his answer may I ask whether he is aware that the charge of 3d. on a 9d. cup of coffee is made at lunch, and the same charge for a shilling cup of coffee is made after dinner?

Mr. Etherton: Will the Parliamentary Secretary bear in mind that where the charge is 21s. the service charge is 3s., being an increase of 100 per cent. on the extra shilling?

Sir Victor Warrender: As I said in my original answer, these officers are given special terms at hotels and are given a subsistence allowance to cover the cost of their living there. Sir A. Southby will understand that I have no power to control charges of the sort he has mentioned.

Sir A. Southby: May I ask, in that case, whether my hon. friend will discuss with the First Commissioner of Works the advisability of taking over this hotel and running it for these officers?

The Minister did not reply, and Sir A. Southby gave notice that in view of the unsatisfactory nature of the reply he would raise the matter again on the adjournment of the House at an early date.

Post Office Workers and Increased Railway Fares

Mr. C. G. Ammon (North Camberwell—Lab.), on May 2, asked the Chancellor of the Exchequer whether he had considered the protest from the Union of Post Office Workers against the further increase in railway fares as adding an increase to the cost of living of thousands of lower-paid Government servants; and whether he would increase wages to safeguard the workers' standard of life as the interests of railway shareholders were protected.

The Chancellor of the Exchequer (Sir John Simon): I have considered this with other representations made to me on the question of cost of living increases for civil servants. A claim from the staff side of the National Whitley

May 10, 1940

Council on behalf of the lower-paid grades of civil servants is now under discussion with the official side of the council.

Women as Railway Porters

Mr. T. Levy (Elland—C.), on May 1, asked the Minister of Labour and National Service if arrangements had been made to train women as bus conductors, railway porters, and other occupations suitable for women in readiness for greater calls upon the country's man-power.

Mr. R. Assheton (Parliamentary Secretary to the Ministry of Labour): In the cases mentioned by my hon. friend any necessary training can best be given by the employer and I have no reason to suppose that it will not be so given.

RAILWAY TRAFFIC IN NORTHERN IRELAND.—An analysis of the figures for January, 1940, shows how railway traffic in Northern Ireland compared with that recorded in January, 1939. The following statistics have been issued by the Ministry of Home Affairs, Belfast:

	Railways wholly in N. Ireland	Railways partly in N. Ireland
Number of persons carried (excluding season ticket holders):		
January, 1940... ...	300,618	338,089
January, 1939... ...	262,190	315,400
Receipts from passenger traffic (including season tickets, but excluding mails and miscellaneous traffic):		
January, 1940... ...	£21,482	£34,550
January, 1939... ...	£15,686	£27,114
Quantity of goods carried:		
Merchandise and minerals	Tons	Tons
January, 1940... ...	43,691	90,012
January, 1939... ...	36,535	83,390
Livestock	Number	Number
January, 1940... ...	28,417	57,496
January, 1939... ...	16,612	53,391
Receipts from goods traffic:		
January, 1940... ...	£17,498	£63,612
January, 1939... ...	£14,054	£50,057

72 EXPORT GROUPS FORMED.—The latest tabulation of export groups, given in *The Board of Trade Journal* of May 2, shows a total of 72. They include groups for the locomotive industry (Mr. F. S. Whalley, Chairman; Mr. J. W. Vaughan, Secretary; offices, 82, Victoria Street, S.W.1), railway brakes and signalling (Capt. B. H. Peter, Chairman; Mr. J. Griffith Hall, Secretary; offices, 82, York Way, King's Cross, N.1), railway carriages and wagons (Mr. A. J. Boyd, Chairman; Messrs. Peat, Marwick, Mitchell & Company, Secretaries; offices, 11, Ironmonger Lane, E.C.2).

Forthcoming Events

- May 14 (Tues.).—Institution of Civil Engineers, Great George Street, London, S.W.1, 5.30 p.m. "Cliff stabilisation works in London clay," by Mr. J. Duvivier.
 May 25 (Sat.).—Permanent Way Institution (Manchester-Liverpool). Inspection of carriage repair shop and main sub-station, Birkenhead and Manor Road.
 June 11 (Tues.).—Institution of Civil Engineers, Great George Street, London, S.W.1, 5.30 p.m. Annual general meeting.
 June 15 (Sat.).—Permanent Way Institution (Manchester-Liverpool), at Southport. "Oxygen cutting," by Mr. R. E. Dore.

RAILWAY AND OTHER MEETINGS

Canadian Pacific Railway Company

The annual meeting of the Canadian Pacific Railway Company was held on May 1 at Windsor station, Montreal. Sir Edward Beatty, Chairman and President, presided and in the course of his address said :—

The decision of the directors not to declare any dividend on the preference stock for 1939 was made only after very careful consideration and with great reluctance. It was fully recognised that dividend payments, particularly on the preference shares of a company such as the Canadian Pacific, which for many years had maintained an unbroken record of satisfactory earnings, come to be regarded as assured income by many people of modest means. It was felt that until it is possible to forecast developments more clearly it is essential to proceed with great caution. The relatively favourable earnings for 1939 are, in large part, the result of better crops and the impetus imparted by the war to certain classes of business. Canadian industry in midsummer of last year was undoubtedly making good headway towards recovery from almost eight years of depressed conditions, but the outbreak of war introduced an element of uncertainty which precluded a proper appraisal of the effect on the company of developments in both national and international affairs. The directors felt that their decision must be governed solely by what is in the best interests of the company and its shareholders.

The company has to contend with unusual problems and the competitive conditions encountered are many and varied. It must at all times rely on its own resources. Financial obligations of corporations may become more difficult to market at reasonable cost as the financial requirements of the Governments of the world continue to increase. Whether the war terminate in the near or distant future, it is bound to bring economic dislocation, and the difficulties which this may occasion cannot be minimised. It is the hope of the directors that the improved earnings of 1940 will continue and that conditions will soon warrant a distribution to the preference shareholders.

The substantial improvement in earnings recorded in the latter part of 1939 has continued in the present year. In the first three months of 1940, gross earnings of the company totalled \$35,637,519, an increase of \$6,291,728, or 21·4 per cent. over the similar period a year ago. Working expenses have increased only \$2,457,160, or 8·8 per cent. The net earnings were \$5,302,489, an increase of \$3,834,568.

The movement of grain and grain products has played an important part in this increase. Unusually large quantities of grain were moved in January and February from country elevators to the Lakehead, and this movement was reflected in an increase

of 77 per cent. in the cars of grain handled by the company during the first two months of the year.

It was expected that the committee appointed by the Minister of Transport to revise the classification of accounts for Canadian railways would recommend a uniform plan for depreciation of rolling stock. The committee has ceased to function for the duration of the war. The programme of increased retirements of rolling stock has been continued, and, in 1939, the charges to working expenses for this purpose totalled \$7,411,000, as compared with \$6,016,000 in 1938 and \$5,487,000 in 1937. These charges represent the cost (less salvage) of rolling stock demolished during the year.

The Canadian Pacific has kept abreast of the times and the capacity of the railway has been greatly augmented during the past quarter century. Improved roadbed, with heavier rails and automatic signalling and other mechanical devices, contributes to the increase in the operating capacity of the main lines. Improvements in construction have increased both the serviceability and the carrying capacity of freight cars. In 1939 the average freight car loading was almost 29½ tons, as against 23 tons in 1914, an increase of 28 per cent., so that fewer units are now required to handle a given volume of traffic. The greater tractive capacity of locomotives is reflected in the fact that the average number of tons of freight carried per train mile has increased from 464 tons in 1914 to 727 tons in 1939, or 57 per cent. The extended operation of scheduled long distance freight trains, with reduction in delays at terminals and increased train speed, has materially reduced the

time of shipments *en route*. In 1939 the fuel performance of freight trains established a new record, 99 pounds being required for every 1,000 tons of freight and equipment hauled one mile, compared with 160 pounds in 1914—a reduction of 38 per cent. This improvement, when applied to the volume of traffic in 1939, represents an annual saving of nearly one million tons of fuel.

It is a matter of regret that little progress can be reported in measures of co-operation between this company and the Canadian National Railways. The administration of the other company has reached the conclusion that any definite commitment of such magnitude should not be made until after the conclusion of the war.

Recent public discussions in connection with the St. Lawrence deep waterways project have indicated that in this country there is developing a tendency to regard unfavourably any further large expenditures on transportation facilities without the most careful appraisal of their economic value. That there is need for a definite transportation policy in Canada should be self-evident. The rationalisation of all forms of transport with the object of the greatest possible national economy should be the goal. The Canadian people have been informed frankly and, I trust, clearly of what this company considers the most practicable method of achieving further rail economies. In my view the placing of our two largest railway systems under common management would not result in a reduction of railway transportation capacity, but would tend, through the use of the most efficient and highly developed channels, to increase it. The achievements made possible by this means could be accomplished without hardship to labour through the normal process of employment attrition.

CANADIAN PACIFIC EARNINGS.—Gross earnings of the Canadian Pacific Railway for March, 1940, amounted to \$11,478,000, an increase of \$1,027,000 in comparison with March, 1939. Working expenses totalled \$9,976,000, or \$299,000 more, leaving net earnings \$728,000 higher, at \$1,502,000. For the first quarter of 1940 gross earnings were \$35,638,000, an increase of \$6,292,000 in comparison with the first quarter of 1939, and the net earnings of \$5,303,000 showed an advance of \$3,835,000.

CANADIAN NATIONAL EARNINGS.—Gross earnings of the Canadian National Railways in March, 1940, were \$18,049,624, an increase of \$3,416,963 in comparison with March, 1939. Operating expenses amounted to \$16,046,647, with an increase of \$1,019,587, resulting in net earnings of \$2,002,977, which compare with a deficit of \$394,400 for March, 1939. Aggregate gross earnings for the first quarter of 1940 totalled \$53,374,115, an increase of \$12,176,674

in comparison with the first quarter of 1939, and the aggregate net earnings of \$5,437,961 compare with a deficit of \$2,289,938.

L.P.T.B. FARE INCREASE HEARING.—The public hearing by the consultative committee to the Minister of Transport, to consider the adjustment of fares on the system of the London Passenger Transport Board necessitated by the increase in costs proved to the Minister by the Railway Executive Committee, will open on May 22 at Bush House, W.C.2, at 10.30 a.m. The purpose of the sitting is to advise the Minister as to the best means of increasing the fares charged in respect of the road services of the board so as to obtain a sum equal as nearly as possible to 10 per cent. of those receipts, and, in the event of the recommendations of the committee, in its opinion, having any reactions on the traffic of the board's railways, to state its views as to any adjustments considered necessary in these fares.

May 10, 1940

NOTES AND NEWS

Troop Train Collision in Norway.

—It is reported that a Norwegian troop train collided with another train near Grong on May 4, with the result that 15 soldiers were killed.

Sleeping Car Services, L.M.S.R.

—As from May 6 a third class sleeping car is being run on the 6.15 p.m. train from Euston to Stranraer every night except Saturdays, and on the 9.55 p.m. from Stranraer to Euston every night except Sundays.

L.N.E.R. Camping Coaches.

Arrangements by the L.N.E.R. have been expedited to ensure camping coaches being ready for Whitsuntide. Altogether 79 coaches will be located at 65 different points on the L.N.E.R. system at beauty spots at the seaside and in woodland and moorland districts, and some bookings have already been made. These vehicles have been equipped to comply with the blackout regulations.

International Sleeping Car Company.—Shareholders in this company are informed that in consequence of the delay in the transmission of papers and documents of foreign origin it has become impossible to make up the balance sheet and accounts as quickly as in normal times. The ordinary general meeting at the office of the company in Brussels has, accordingly, been adjourned from May 7 to June 11 at 2 p.m.

Cheap Fares to the Paris Fair.—Buyers from Great Britain visiting the Paris Fair, which is being held from May 11 to 27, can obtain tickets for their return journey on the French railways at 40 per cent. reduction on the sum of two single fares. They are issued on production of the *Carte de Légitimation* issued by the Fair Committee, and of a passport or other official identity paper showing that the holder is not resident in France. Their validity extends from 5 days before the fair opens until 5 days after it closes, and they may be made available on the return by a different route

and to a different port or frontier station from those used on the outward journey. Holders will also be allowed to break their journey at any station *en route* in each direction.

Railway Extension to Serve New American Potash Supplies.—To

serve the development of large potash beds near Carlsbad, New Mexico, the Atchison, Topeka & Santa Fe Railroad is constructing a ten-mile extension of its lines. About two-thirds of the output of the beds will be potassium chloride and potassium sulphate; potassium sulphate has not been produced in the United States before, the necessary supply, according to a Reuters message, having been obtained from Europe.

Argentine Railway Earnings.—

The gross earnings of the Argentine railways (including the State system) for the first five months (July-December) of the financial year 1939-40, amounted to 240,239,000 pesos, or 6,046,000 pesos (2·6 per cent.) more than in the corresponding period of the previous financial year. The British-owned railway receipts accounted for 169,190,000 pesos of the total, an increase of 3,896,000 pesos, or 2·4 per cent. Goods revenue for the whole system amounted to 172,583,000 pesos, or 4·3 per cent. more than in 1938-39, and passenger receipts were 45,584,000 pesos or 0·8 per cent. less. Goods tonnage was 22,340,000, or 6 per cent. more and number of passengers was 83,537,000, a small increase of 1·6 per cent.

Haggerston Station Closed.—The L.M.S.R. announces that Haggerston station, between Dalston Junction and Shoreditch on the North London section, was closed on and from Monday last, May 6. For passenger traffic, both Dalston Junction and Shoreditch stations are in close proximity; there are also frequent alternative London Transport road services. Dalston Junction will deal with parcels for Haggerston "to be called for," also with traffic brought to the station for despatch;

parcels requiring collection or delivery services will be dealt with by Euston or St. Pancras.

Railway Accident in France.—In the early morning of May 4 a bridge between Vallon and Urcay, about 45 miles south of Bourges, collapsed as an Aurillac-Paris express was passing under it. The train was derailed and damaged and 21 persons are reported to have been killed. The bridge collapse is said to have been due to weakening by torrential rains.

British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices	
			May 7, 1940	Rise Fall
G.W.R. Cons. Ord. ...	38	21½	44½	-1
5% Con. Pref. ...	92	71	100½	-
5% Red. Pref. (1950)	98	83	103½	-
4% Deb. ...	103	91	104½	-
4½% Deb. ...	105½	93½	106½	-
4½% Deb. ...	110	99	111	-
5% Deb. ...	121	109½	122½	-
24½% Deb. ...	63½	54	65½	-
5% Red. Charge ...	117	104	116	-
5% Cons. Guar. ...	111	96½	114	-
 L.M.S.R.				
Ord. ...	17	9½	21	-½
4% Pref. (1923)	46½	20	53	-1½
4% Pref. ...	63½	37½	64	-1½
5% Red. Pref. (1955)	83	58½	93	-
4% Deb. ...	98½	85	100½	-
5% Red. Deb. (1952)	109	101½	107	-
4% Guar. ...	87½	73	89½	-1
 L.N.E.R.				
5% Pref. Ord. ...	5½	3½	5½	-½
Def. Ord. ...	3½	1½	2½	-½
4% First Pref. ...	38½	19	51	-2
4% Second Pref. ...	15	7½	19	-1
5% Red. Pref. (1955)	55	38	73	-
4% First Guar. ...	78½	60	81½	-
4% Second Guar. ...	68½	47	71½	-
3% Deb. ...	71½	57	72½	-
4% Deb. ...	93	76	95½	-
5% Red. Deb. (1947)	106½	98	104½	-
4% Sinking Fund Red. Deb.	104½	96	102½	-
 SOUTHERN				
Pref. Ord. ...	78	46½	71	-
Def. Ord. ...	19½	7	20	-
5% Pref. ...	100	76	100½	-
5% Red. Pref. (1964)	102½	94	102½	-
5% Guar. Pref. ...	116½	103	114	-
5% Red. Guar. Pref. (1957)	112½	102½	110½	-
4% Deb. ...	103	91½	103½	-
5% Deb. ...	118½	109½	122½	-
4% Red. Deb. (1962-67)	106	98	104½	-
4% Red. Deb. (1970-80)	102	96	104½	+1
 FORTH BRIDGE				
4% Deb. ...	98½	81	92½	-
4% Guar. ...	95	80	92½	-
 L.P.T.B.				
4½% "A" ...	115	103	109½	-
5% "A" ...	123	106½	117½	-
4½% "T.F.A." ...	105	100½	103½	-
5% "B" ...	117½	102	109½	-
5% "C" ...	84	63½	44	-
 MERSEY				
Ord. ...	24½	17½	25½	-
4% Perp. Deb. ...	93½	88½	91	-
3% Perp. Deb. ...	77	65½	65½	-
3% Perp. Pref. ...	55	49½	54½	-
 IRELAND BELFAST & C.D.				
Ord. ...	6	3	4	-
 G. NORTHERN				
Ord. ...	6	2½	4	-
 G. SOUTHERN				
Ord. ...	13½	8	9½	-½
Pref. ...	26	10	22½	-
Guar. ...	40½	22	28½	+½
Deb. ...	57	45½	51½	-

Irish Traffic Returns

IRELAND	Totals for 17th Week			Totals to Date		
	1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.
Belfast & C.D. (80 miles)	pass. £ 2,459 goods 437 total 2,896	£ 1,747 + 496 + 2,243	+ 712 — 59 + 653	£ 38,151 8,101 46,252	£ 30,603 7,271 37,874	+ 7,548 + 830 + 8,378
Great Northern (543 miles)	pass. 9,200 goods 13,450 total 22,650	7,950 + 12,100 + 20,050	+ 1,250 + 1,350 + 2,600	167,400 194,150 361,550	150,900 172,950 323,850	+ 16,500 + 21,200 + 37,700
Great Southern (2,076 miles)	pass. 28,354 goods 52,964 total 81,318	29,897 47,685 77,582	— 1,543 + 5,279 + 3,736	£ 508,026 743,925 1,251,951	503,267 706,499 1,209,766	+ 4,759 + 37,426 + 42,185
L.M.S.R. (N.C.C.) (271 miles)	pass. 4,600 goods 3,570 total 8,170	3,410 — 3,960 + 800	+ 1,190 — 390 + 7,370	£ 73,830 57,890 131,720	56,260 50,020 106,280	+ 17,570 + 7,870 + 25,440

OFFICIAL NOTICES

Rio Tinto Company Limited

DIVIDEND ON SHARES TO BEARER

HOLDERS OF SHARE WARRANTS TO BEARER are informed that they will receive PAYMENT of the DIVIDEND declared at the General Meeting held on the 3rd inst., at the rate of Two Shillings and sixpence per Share on the Preference Shares, less Income Tax, on and after Monday, the 20th May, 1940, on presentation of Coupon No. 86 on the Pre-

ference Shares, either at the Company's Office in London, or at the Société Générale, 29, Boulevard Haussmann, Paris.

Coupons for payment in London must be left four clear days previously for examination, and may be deposited forthwith.

By Order,
J. DAVIDSON,
Secretary.

Offices of the Company :
11, OLD JEWRY, LONDON, E.C.2.
3rd May, 1940.

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is noon on Wednesday. All advertisements should be addressed to :—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

RAILWAY AND OTHER REPORTS

West of India Portuguese Guaranteed Railway Company.—The directors recommend a dividend of 2½ per cent. for the half year ending June 30, 1940, and a bonus of ¼ per cent., making 3¾ per cent., the same as for the corresponding period of last year.

Midland Railway Company of Western Australia Limited.—The directors have authorised an interim payment on July 1 of 2 per cent., less income tax at 7s. 6d. in the £, on the second mortgage cumulative income debenture stock on account of the year ending June 30, 1940.

South Indian Railway Co. Ltd.—The directors have declared an interim dividend on ordinary stock of 2½ per cent. (½ per cent. from surplus profits and 1¾ per cent. guaranteed interest) less income tax, for the year 1940. This compares with 2 per cent. for the corresponding previous period.

Sóller Railway (Balearic Islands).—Gross earnings in 1939 were 737,183 pesetas, against 599,493 in 1938. Working expenses were 602,500 pesetas against 497,582, and the working ratio 81·72 per cent. The net profit was 33,357 pesetas, compared with a loss of 12,096 pesetas in the previous year.

Zafra & Huelva Railway Company.—Like many other Spanish railways, the Zafra & Huelva suffered much during the civil war. Although the Nationalist forces occupied the territory served by the railway by the end of September, 1936, five bridges had been blown up by hostile action. Since 1937 shortage of rolling stock, due to the non-return of the company's wagons by other railways, seriously prejudiced earning power. Accounts are now presented for the four years 1936-1939. Earnings in 1939 were 4,695,661 pesetas, against 4,700,334 in 1938. Working expenses were 4,952,187, compared with 4,716,005 pesetas. There was a loss on working in all four years, aggregating 756,163 pesetas, and no distribution can be made to the bondholders in respect of the corresponding coupons. The ministerial Order of April 7, 1937, making it obligatory for all traffic to be conveyed by the shortest route between any two points, has not been enforced in all cases and the railway has suffered detriment in consequence. Family allowances and an increase in the minimum wage, all of which

are borne by the employer, have contributed to the unavoidable rise in working expenses.

Elgin, Joliet & Eastern Railway Company.—Operating revenues for the year 1939 totalled \$18,148,239, of which freight accounted for \$15,512,631. Operating expenses were \$12,235,990, giving a ratio of 67·42 per cent. and a net revenue from railway operations of \$5,912,248. Total income was \$3,493,902 and after meeting fixed charges of \$978,348 and miscellaneous deductions there was a credit balance of \$2,497,049, which added to the credit balance brought in at the end of 1938, \$11,413,238, gives with credits during the year \$13,914,328. Of this dividend appropriations absorb \$1,910,000, and various other debits, raising the total \$2,058,891, leave \$11,856,437 to be carried forward.

Salvador Railway Co. Ltd.—Receipts for the year to June 30, 1939, were £83,900, against £77,353 for 1937-38, and expenses amounted to £79,624 compared with £78,303, leaving a profit on working of £4,316 against a loss of £950. There was a net credit balance for the year under review of £2,655, reducing the former debit balance to £82,022. Freight revenue showed a satisfactory increase, but passenger revenue continued to decline. The increased mileage run by railcars has tended to slow up the drop in passenger revenue, but road competition increases with the additional mileage of good roads running parallel with the railway.

Moss Gear Limited.—The directors recommend an interim dividend of 5 per cent., which compares with 3½ per cent.

Associated Equipment Co. Ltd.—The directors have declared an interim dividend at the rate of 6d. a £1 unit of stock, free of tax (same).

Ransomes & Rapier Limited.—Net profit for the year 1939 after providing for maintenance of buildings and plant, depreciation, and taxation (£22,448 against £13,703), was £22,503 compared with £26,282. A final dividend of 4 per cent., tax free, is recommended on the ordinary shares, making 6½ per cent., tax free, for the year, against 7½ per cent., tax free, for 1938. The sum of £5,000 is again placed to reserve and the amount to be carried

forward is £3,537, against £3,758 brought in. The greater proportion of the works output is being used either directly or indirectly on Government work, but export trade has been well maintained.

Contracts and Tenders

The Bengal-Nagpur Railway has placed the following orders :—

Robert Stephenson & Hawthorn Limited : 8 "GS" class boilers.
J. Walsh & Co. (Birmingham) Ltd. : 2,123 planished panel plates.

The North British Locomotive Co. Ltd. has received an order from the Great Western of Brazil Railway for 10 locomotive boilers for use in engines of the "200" class.

The Belgian firm of La Brugeoise et Nicaise & Delcuve has on hand an order for 150 wagons for the Thailand (Si-m) State Railways.

A recent report says that, since the beginning of the war, the French National Railways have ordered 20,900 wagons in addition to their normal construction programme. British, Belgian, and French manufacturers have participated in the contracts. Orders to Belgium have been placed through the Syndicat Belge de Matériel Roulant. The five-year construction programme inaugurated over a year ago comprised 120 Milsado steam locomotives, 15 diesel shunters, 18 electric locomotives, 8,000 wagons, and 6,000 containers.

The General Manager of the South African Railways has stated that a three-year rolling stock programme is to be inaugurated, and will cover the construction of about 500 coaches and 8,000 goods vehicles. It is hoped to build 90 per cent. of this stock in South Africa.

For a long time there has been a close relationship between the Quasi-Arc Co. Ltd. and the Ferro-Arc Welding Co. Ltd. and during the last year the electrodes marketed by the two companies have been manufactured in the same factory. The companies have now amalgamated (from May 1), under the name of the Quasi-Arc Co. Ltd. The amalgamation will enable the technical and sales staffs of the two companies to pool their efforts and should result in improvements in the quality of products and in the technical service available to customers.

May 10, 1940

Railway Stock Market

The upward movement in British Funds has been continued this week, but other departments of the Stock Exchange were very inactive, although firmer conditions tended to develop. There is, however, a general disposition to await details of the Limitation of Dividends Bill. So far as can be judged at present, dividend limitation proposals as applied to junior stocks of the home railways will not have any effect on the payments which could reasonably be expected for the current year. On the longer view, the proposals take from Great Western ordinary and L.M.S.R. ordinary a good deal of the speculative attractions which would otherwise have attached to these stocks. Nevertheless, from the angle of yields on the basis of the probable payments for the current year, most home railway junior stocks are apparently moderately priced, and similar remarks apply to the guaranteed and senior preference stocks. So far as can be judged there seems no reason why these securities should not show reasonable improvement in value when the general trend on the Stock Exchange is better. There is some uncertainty whether for the purposes of dividend limitation Southern preferred and deferred will be regarded as joint

equity stocks. If so, during the war the maximum that would be payable on the preferred would be 4 per cent. The prevailing belief is, however, that dividend limitation will apply only to the deferred stock and that the preferred will continue to receive its full 5 per cent. As was to be expected, debenture stocks have remained firm in sympathy with the upward movement in gilt-edged, and last week's gains were fully held.

As compared with a week ago Great Western ordinary has moved down further from 46 to 44½, at which the yield is approximately 9 per cent. on the basis of a dividend of 4 per cent. The 5 per cent. preference at 101 and the 4 per cent. debentures at 104½ held recent gains. L.M.S.R. ordinary, which was 21½ a week ago, has since moved down to 20½ and would appear relatively undervalued if dividend estimates for the current year are realised. Despite the attractive yields, L.M.S.R. 4 per cent. senior preference was affected by the prevailing market trend and has gone back on balance from 65½ to 64; the 4 per cent. 1923 preference at 52½ also lost the improvement shown a week ago. The 4 per cent. debentures kept at 100½ and the 5 per cent. debentures at 107; the 4 per

cent. guaranteed recovered an earlier decline, and at 90 was unchanged on balance. L.N.E.R. first preference lost two points to 51, and the second preference was a point down at 19. Moreover the guaranteed stocks also failed to hold all the improvement recorded a week ago; the first guaranteed having reacted from 82 to 83 and the second from 72½ to 71½. As regards L.N.E.R. debentures, the 3 per cents were slightly lower at 72, but the 4 per cents kept at 95½. On balance Southern deferred declined from 20½ to 19½, while the preferred lost last week's improvement, having gone back to 70. The 5 per cent. preference was maintained at 101, and the 4 per cent. debentures at 103½, while the guaranteed stock was around 113. Metropolitan Assisted was a point down at 54½. London Transport "C" at 43½ also reacted a point on uncertainty whether dividend limitation will apply in this case.

Business in Argentine and most other foreign railway securities has been insufficient to test prices adequately, and movements, although fairly moderate, were against holders. San Paulo was steadier. Some buying of Canadian Pacific Railway Company preference and debenture stocks was reported.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1939-40	Week Ending	Traffic for Week			Aggregate Traffics to Date			Shares or Stock	Prices				
			Total this year	Inc. or Dec. compared with 1939	No. of Weeks	Totals		Increase or Decrease		Highest 1939	Lowest 1939	May 7, 1940	Yield % (See Note)	
						This Year	Last Year							
South & Central America														
Antofagasta (Chili) & Bolivia	834	28.4.40	£ 19,950	+ 5,200	17	£ 332,190	£ 234,980	+ 97,210	Ord. Stk.	100	4½	11½	Nil	
Argentine North Eastern	753	27.4.40	ps. 144,300	- ps. 29,800	44	ps. 6,504,700	ps. 6,784,600	- ps. 279,900	6 p.c. Deb.	4½	5½	3½	Nil	
Bolivar ...	174	Apl. 1940	4,650	+ 1,000	17	16,240	15,350	+ 890	Bonds	5½	4½	8	Nil	
Brazil ...	...	...	...	...	...	...	...	...	Ord. Stk.	5½	2	3	Nil
Buenos Ayres & Pacific	2,801	27.4.40	ps. 1,490,000	- ps. 193,000	44	ps. 60,284,000	ps. 62,333,000	- ps. 2,049,000	Mt. Deb.	14	8	13½	Nil	
Buenos Aires Central	190	23.3.40	\$69,000	- \$12,400	39	\$3,782,900	\$3,976,600	- \$193,700	Ord. Stk.	13½	4½	8	Nil	
Buenos Ayres Gt. Southern	5,082	27.4.40	ps. 2,234,000	- ps. 315,000	44	ps. 102,672,000	ps. 102,335,000	+ ps. 337,000	Ord. Stk.	13½	4½	8	Nil	
Buenos Ayres Western	1,930	27.4.40	ps. 90,000	+ ps. 71,000	44	ps. 34,355,000	ps. 32,420,000	+ ps. 1,935,000	Ord. Sh.	10½	4	6½	Nil	
Central Argentine ...	3,700	27.4.40	ps. 1,740,400	- ps. 343,500	44	ps. 76,382,950	ps. 83,230,050	- ps. 6,847,100	Ord. Sh.	11½	4	7	Nil	
Do. ...	...	...	...	...	...	...	...	...	Ord. Stk.	4	1½	4	Nil
Cent. Uruguay of M. Video	972	27.4.40	24,220	+ 3,799	44	919,073	807,766	+ 111,307	Pr. Li. Stk.	2½	1½	3½	Nil	
Costa Rica ...	188	Feb. 1940	16,895	- 4,824	35	136,096	177,211	- 41,115	Stk.	24½	18	22	9½	
Dorada ...	70	Mar. 1940	11,800	- 2,500	13	34,500	40,400	- 5,900	1 Mt. Db.	104½	102	102½	5½	
Entre Rios ...	810	27.4.40	ps. 218,800	- ps. 13,700	44	ps. 10,250,700	ps. 10,967,500	- ps. 716,800	Ord. Stk.	6	3	3½	Nil	
Great Western of Brazil	1,016	27.4.40	10,100	+ 2,000	17	21,160	17,790,000	+ 3,370,000	Ord. Sh.	3½	1½	7½	Nil	
International of Cl. Amer.	794	Mar. 1940	\$591,812	- \$60,622	13	\$1,762,134	\$1,750,144	+ \$11,990	Pr. Li. Stk.	45½	36	40	15	
Intercceanic of Mexico	...	...	...	...	...	...	...	...	1st Pref.	7½d.	7½d.	1	Nil
La Guaira & Caracas	224	Apl. 1940	6,040	+ 160	17	28,015	21,700	+ 6,315	Stk.	7	6½	6½	Nil	
Leopoldina ...	1,918	27.4.40	19,349	+ 4,520	17	375,494	337,374	- 38,120	Ord. Stk.	2½	1½	1½	Nil	
Mexican ...	483	21.3.40	\$317,100	- \$1,400	11	\$3,651,600	\$3,578,300	+ \$73,300	Ord. Stk.	1½	4½	4½	Nil	
Midland of Uruguay	319	Mar. 1940	12,567	+ 3,360	40	93,700	83,075	+ 10,625	Ord. Stk.	2	2	2	Nil	
Nitrate ...	386	30.4.40	9,063	+ 3,710	17	65,023	43,471	+ 21,552	Ord. Sh.	1½	1½	2½	5½	
Paraguay Central ...	274	27.4.40	\$3,222,000	- \$997,000	44	\$137,343,000	\$133,859,000	+ \$3,484,000	Pr. Li. Stk.	45½	36	40	15	
Peruvian Corporation	1,059	Apl. 1940	73,832	+ 12,347	40	680,483	670,650	+ 9,833	Pref.	1½	1½	3½	Nil	
Salvador ...	100	30.3.40	\$32,719	+ 15,269	40	\$76,052	\$844,964	+ \$68,912	Pr. Li. Stk.	19½	16	16½	Nil	
San Paulo ...	152½	28.4.40	38,302	- 2,794	17	572,535	506,758	+ 65,777	Ord. Stk.	58	20	47	5½	
Tatral ...	160	Mar. 1940	3,005	+ 730	40	23,135	27,530	- 4,395	Ord. Sh.	6/6	1½	7½	Nil	
United of Havana ...	1,353	27.4.40	34,989	+ 4,720	44	1,053,623	1,033,602	+ 20,021	Ord. Stk.	2	2	2	Nil	
Uruguay Northern ...	73	Mar. 1940	1,411	+ 553	40	9,950	9,104	+ 846	Deb. Stk.	2	2	2	Nil	
Canada														
Canadian National ...	23,695	30.4.40	1,124,170	+ 282,676	17	14,208,055	11,129,948	+ 3,078,107	Perp. Dbs.	74½	60	79	—	
Canadian Northern ...	—	—	—	—	—	—	—	—	4 p.c. Gar.	100	76	99½	5½	
Grand Trunk ...	—	—	—	—	—	—	—	—	Ord. Stk.	7	3½	8½	Nil	
Canadian Pacific ...	17,162	30.4.40	794,000	+ 214,600	17	9,536,400	7,891,800	+ 1,644,600	Ord. Stk.	2	2	2	Nil	
India														
Assam Bengal ...	... 1,329	10.4.40	45,345	+ 3,380	2	45,345	41,965	+ 3,380	Ord. Stk.	76½	60	79½	3½
Barsi Light ...	202	20.4.40	7,432	+ 3,322	3	10,470	6,840	+ 3,630	Ord. Stk.	56½	50½	42½	B½	
Bengal & North Western	2,096	20.4.40	97,021	+ 19,769	3	183,612	152,352	+ 31,260	Ord. Stk.	277	229	278	5½	
Bengal Dooars & Extension	161	20.4.40	3,225	+ 901	3	6,846	5,015	+ 1,831	Ord. Stk.	91	84½	21½	3	
Bengal-Nagpur ...	3,267	10.4.40	244,875	+ 23,314	2	244,875	221,561	+ 23,314	Ord. Stk.	94½	83½	95½	4½	
Bombay, Baroda & Cl. India	2,986	20.4.40	289,650	+ 22,500	3	560,700	525,300	+ 35,400	Ord. Stk.	108	90	107	5½	
Madras & Southern Mahratta	2,967	10.4.40	186,300	+ 10,581	2	186,300	175,719	+ 10,581	Ord. Stk.	104½	92	102½	7½	
Rohilkund & Kumaon ...	571	20.4.40	21,523	+ 5,776	3	45,281	32,182	+ 13,099	Ord. Stk.	280	263	280	5½	
South Indian ...	2,531	31.3.40	136,992	+ 4,196	52	4,128,052	4,100,582	+ 27,470	Ord. Stk.	88	92½	5½	Nil	
Various														
Beira ...	204	Feb. 1940	64,706	—	21	358,968	—	—	Prf. Sh.	—	—	—	—	
Egyptian Delta ...	623	31.3.40	5,381	—	52	214,172	215,449	- 1,277	Prf. Sh.	—	—	—	Nil	
Kenya & Uganda ...	1,625	May 1939	206,557	- 11,295	21	1,220,870	1,309,332	- 88,462	Ord. Stk.	55	39	48½	7½	
Manila ...	—	—	—	—	—	—	—	—	B. Deb.	91½	87½	82½	4½	
Midland of W. Australia ...	277	Feb. 1940	12,214	- 2,729	35	102,871	122,176	- 19,305	Inc. Deb.	91½	87½	82½	4½	
Nigerian ...	1,900	9.3.40	41,666	+ 10,244	50	1,947,385	2,016,606	- 69,221	Ord. Stk.	—	—	—	—	
Rhodesia ...	—	—	—	—	—	—	—	—	Ord. Stk.	—	—	—	—	
South Africa ...	13,288	13.4.40	656,387	+ 51,095	2	1,309,923	1,168,659	+ 141,264	Ord. Stk.	—	—	—	—	
Victoria ...	4,774	Jan. 1940	989,333	+ 206,698	31	5,827,335	5,516,376	+ 310,959	Ord. Stk.	—	—	—	—	

Note. Yields are based on the approximate current prices and are within a fraction of 1/2.
Argentine traffics are now given in pesos. † Receipts are calculated @ £s. 6d. to the rupee. § ex dividend